

### Evaluate Craft Training/Qualifications

- Formulate a skill resource draw plan with various resources, e.g., employment agencies, trade schools, specialty contractors, construction manpower entities;
- Monitor plan performance a minimum of 24, 18, 6, and 3 months before Site mobilization;
- Start early, i.e., training programs on specifications/procedures/craft skills mock-up testing materials; and
- Develop a skill development program that will:
  - Test for reading, drawing and installation skills by use of mockups.
  - Test for basic skills, e.g., formwork, rigging, piping, electrical, etc.
  - Establish adult basic education survey testing level required.
  - Develop and test required skill sets by “show-for-hire-later-chits.

#### A.1.5.9 Local Subcontractor Evaluations & Agreements

The work under this task identifies specific needs as related to Subcontractor requirements.

- Prefabrication
- Modularization
- Area and specialty contractors (e.g., painting, HVAC, fire protection)
- Emergency health care
- Consumable tools/materials

Specific Subcontractors will be identified. Evaluations of their capabilities will be performed and contracts will be negotiated with selected contractors.

#### A.1.5.10 Environmental Management Plan

The scope of this package is to perform an assessment of the Site specific environmental information and data collected by Owner and define the impacts on the standard design and the design criteria for the Site specific design. This work to include:

- Water run-off;
- Erosion and Sedimentation Control;
- Plant and animal data and protection requirements;
- Wetlands requirements;
- Existing potential hazardous materials;
- State and local regulations;
- Any other potential items that could impact design or construction.

Based on this assessment, requirements would be developed for the designers and construction team to use in the work. These requirements would be incorporated into the appropriate project procedures and used for the preparation of any Government Approvals.

#### A.1.5.11 Early Procurement/Vendor Commitments

The work under this task includes the procurement support for turbine island and Site specific and selected key components and commodities to support design development and plant integrated schedule. This includes:

- Vendor identification;
- Performance of needed surveys and reviews;
- Preparation of bid packages;
- Solicitation of bids;
- Bid evaluation and award;
- Vendor qualification and audit; and
- Negotiation and contract placement.

#### A.1.5.12 Level 2+ Site Specific Schedule

This scope includes the development of the schedule for Site specific engineering, procurement and construction activities and the integration of these activities into the standard AP1000 schedule to yield the definite Project Schedule.

#### A.1.5.13 Project Specific Construction Execution Plan (including construction schedule enhancement initiatives - commitments; sustained installation plan)

This activity includes the development of an integrated Site specific construction schedule.

- Integrate Site specific requirements into standard construction schedule (i.e., excavation, backfill plan, yard layout, etc.)

#### A.1.5.14 Project Organization and Structure-DOR Roles and Responsibilities

This activity includes the development of the Site and Owner specific Work scope, including identification of the necessary division of responsibility between Owner and Contractor and the interfaces for Contractor to a level of detail that is sufficient to serve as the bases for the Phase I Scope of Work as well as the Work plan for Phase II.

#### A.1.5.15 Site temporary facilities integration with permanent conversion (Design, Estimating, Procurement)

The scope of this package is to identify the needs for temporary structures / facilities for a standard AP1000 construction site. This work shall include:

- Engineering facilities;
- Management facilities;
- Craft facilities;

- Safety facilities;
- Construction tool rooms;
- Construction material warehouses;
- Construction equipment storage and maintenance facilities;
- Module laydown areas;
- Mechanical /electrical fabrication shop;
- Warehouses.
- Civil shop
- Repair shop (truck, equipment, fueling)
- Craft training facilities
- Water treatment facilities (temporary and permanent as applicable)
- Construction waste disposal facilities

A.1.5.16 Excavation plans (including tie-back walls, Mechanically Stabilized Earth (MSE) walls) and yard early construction before NI and TI as well as existing facilities

The scope of this package is to perform an assessment of the Site specific soil conditions and address any existing or new underground facilities existing that have potential impacts on the standard design. This work shall include:

- Soil stabilization process;
- Waterproofing process/technique;
- Engineering for 100% of the underground facilities;
- Locating existing underground facilities;
- Plan for the installation of new underground facilities;
- Plan for completing the excavation and installing utilities prior to start of construction;
- Investigate and plan for existing rock, i.e., blasting, removal and disposal; and
- As built documentation and location of all installed underground facilities

A.1.5.17 Mockup and Practice Modules (typical for each category)

This activity includes the implementation of the following aspects of the modularization plan.

- Evaluation, audit, and selection of module fabricators;
- Assignment of specific modules for each fabricator;
- Development of standardization (templates/fixtures);
- Development of the pilot module demonstration program to implement the demonstration of quality controls; and
- Inspection planning including source inspection attribute development.

#### A.1.5.18 Plan for the Initial Test Program

During Phase I, Owner and Contractor will develop a detailed plan for the performance of Preoperational and Startup Tests. This plan will include the minimum number of Owner and Contractor personnel needed for the performance of this testing to support the Project Schedule. The Initial Test Program is described in Section 3 of this Exhibit A.

#### A.1.5.19 Site Preparation and Development Activities

Prepare work packages and perform initial Site preparation and development activities in accordance with schedule and as allowed prior to Full Notice to Proceed including:

- Railroad modifications;
- Road modifications;
- Clearing, grubbing and grading;
- Erosion and sediment control;
- Core borings for buildings, road and railway work;
- Site surveying;
- Providing construction power;
- Providing construction fire protection;
- Providing electrical and mechanical underground systems;
- Preparing Site for heavy lift cranes;
- Relocation of alternate power source and fiber optics lines for the existing V. C. Summer Plant;
- Removal and disposal of abandoned utilities off Site;
- Relocation of lines for the construction transformer;
- Removal and disposal of abandoned fencing and gates off Site;
- Removal and disposal of concrete blocks off Site;
- Construction security infrastructure
- Excavation and backfill
- Selection and preparation of spoils areas
- Batch plant
- Common fill and backfill storage locations; and
- Water treatment to support construction

#### A.1.6 COL Support and Other Requested Services

Services in support of the COL (non-NuStart), or other services that may be required in Phase I, will be on an as-needed basis, as specifically requested by Owner, and will be provided on a Time and Materials Basis.

#### A.1.7 Phase I Deliverables

Listed below are the deliverables for Phase I:



#### A. Project Management

- Single point of contact for Contractor Phase I activities
- Issue and implement the Project Execution Plan
- Conduct monthly project status review meetings (Owner/Contractor)
- Monthly schedule updates
- Consolidated monthly status reports
- Management of the Phase I activities
- Coordinate and oversight of long lead procurement activities
- Manage document control, implementation of records turnover/transfer (IMS)
- Contract administration and project controls

#### B. Procurement Activities

- Procurement related activities to develop assemble and issue revised request for proposals to support the dates in the integrated Project Schedule.
- Revised purchase specifications to support long lead material ("LLM")
- Engineering inputs to supply chain management ("SCM") for LLM.
- Quality Assurance ("QA") inputs to SCM for LLM
- Issue Equipment requests for proposals
- QA surveillance of equipment and module fabrication.
- Evaluation of LLM and other major component proposals
- Obtain estimates for commodities and in-direct costs

#### C. Site Specific Activities

- Preliminary Site specific engineering;
- Detailed Site specific engineering - to support Project Schedule;
- Site geotechnical review – design/construction assessment;
- Construction Execution Plan (including construction schedule enhancement initiatives - commitments; sustained installation plan);
- Project specific equipment & material logistics deployment model including (transportation and logistics plan);
- Local labor survey;
- Local Subcontractor evaluations & agreements;
- Regional infrastructure assessment;
- Environmental management plan;
- Site temporary facilities integration with permanent conversion (design, estimating, procurement);
- Excavation plan (including tie-back and/or MSE walls) and yard early construction before nuclear island and turbine island as well as existing facilities.
- Applications for Government Approvals;
- Field work documents;
- Specifications and drawings and details for access roads, excavation details, rail lines, construction power, fire protection system, chase system for electrical and mechanical components needed under road and rail, relocation of existing lines;

- Site clearing, grubbing and grading;
- Removal of obstructions to construction activities;
- Core borings for roads, rail, discharge structure, water treatment facility and temporary buildings;
- Site surveys;
- Roadway access to site;
- Rail relocation and access to site;
- Other authorized Site development activities prior to Full Notice to Proceed;
- Selection and preparation of spoils area;
- Designation of common fill and engineering backfill storage locations; and
- Construction security.

## **A.2 Phase II**

Contractor will supply one (1) or two (2) complete AP1000 Nuclear Power Plant Units to be located at the Site, except for those items listed in Table 1 as Owner's Responsibility and Nuclear Fuel, which will be provided by Owner.

The Standard Plant description is provided in the AP1000 Design Control Document. The Standard Plant will include Units as described in Revision 16 of the Design Control Document, including Technical Report 134, "AP1000 DCD Impacts to Support COLA Standardization," APP-GW-GLR-134. Revision 4 and the Design Change Packages approved for implementation as of the Effective Date. Interfaces with existing Site facilities and systems are shown in Figure 1, Site Plan. Contractor's scope includes design, engineering, procurement, installation, and testing necessary to provide the AP1000 Nuclear Power Plant structures and systems described. Contractor's scope of services with division of responsibilities between Owner and Contractor is provided in Table 1.

Documentation to be provided by the Contractor to the Owner as developed for the Facility is listed in Table 2.

In accordance with the requirements of Section 3.6(f) of the Agreement, during the implementation of Phase II, Mandatory Spare Parts will be identified in Table 3.

Other than the scope of supply listed as Owner's responsibility in Table 1 (and except for Nuclear Fuel), Contractor will provide the Equipment and Services necessary to construct and install the Units, and their constituent systems, to meet the functional system performance requirements described in the Design Control Document, unless otherwise specified in the Agreement or as otherwise mutually agreed.

### **1.0 Plant Description**

Contractor will provide each AP1000 Nuclear Power Plant utilizing the NRC Certified AP1000 Design. A comprehensive description is provided in the Design Control

Document, which was the basis of the submittal to the NRC under the provisions of 10 CFR Part 52.

The AP1000 Nuclear Power Plants meet applicable safety requirements and goals defined for advanced light water pressurized water reactors with passive safety features and provides for a greatly simplified plant with respect to design, licensing, construction, operation, inspection and maintenance.

Each Unit's net electrical power to the grid will be nominally 1117 MWe with a nuclear steam supply system power rating (core plus reactor coolant pump heat) of approximately 3415 MWt.

## 2.0 Plant Arrangement

The plant arrangement will be comprised of five principal building structures; the nuclear island, the turbine building, the annex building, the diesel generator building, and the radwaste building.

Details of the AP1000 Site Plan and Building Arrangement are illustrated in the attached Design Control Document (DCD) Figure 1.2-2.

The functional allocation of system components contained in the buildings is identified in the attached DCD Figure 1.2-3.

## SITE SPECIFIC SYSTEMS

The systems that are specific to the V C Summer site are the Circulating Water System, Storm Drain System, Potable Water System, Raw Water System, Sanitary Drainage System, Waste Water System and the Yard Fire System. In addition, portions of the Electrical Grounding and Lightning Protection System and the Electrical Site Power Distribution System are specific to the V C Summer site.

The reference plant main cooling tower-circulating water pump complex consists of a natural draft cooling tower, a pump basin, and circulating water pumps. The cooling tower for the Owner's Site will be an induction draft.

**Circulating Water System (CWS)** – CWS supplies cooling water to the main condenser, turbine building closed cooling water system (TCS) heat exchangers, condenser vacuum pump seal water (CMS) heat exchangers and rejects the waste heat to the atmosphere through cooling towers. The CWS contains 120 in diameter Prestressed Concrete Cylinder Pipe (PCCP) pipe and the circulation water pumps.

**Raw Water System (RWS)** – RWS provides raw water from site sources to CWS. The RWS system contains 4 in to 42 in diameter High Density Polyethylene Pipe (HDPE) and the intake pumps.

**Storm Drain System (DRS)** - The Storm Drain System (DRS) keeps the AP1000 power block facilities and the site specific facilities free from localized flooding during a storm. The DRS system contains of 12 in – 48 in HDPE pipe.

**Potable Water System (PWS)** – PWS furnishes water for domestic use and human consumption. The PWS system contains 2 in - 12 in HDPE pipe.

**Sanitary Drainage System (SDS)** – SDS collects sanitary waste from Site rest rooms and building drains and transports it to treatment and discharge. During construction this system will tie into a temporary sanitary treatment facility until the permanent facility is constructed. Construction city will have a separate sanitary treatment facility. The SDS system contains 3 in to 6 in HDPE underground pipe.

**Waste Water System (WWS)** - WWS collects non-radioactive plant process waste effluents (excluding sanitary and storm drains), provides appropriate means of treating waste effluents, oil separation and discharges treated waste effluent. The WWS system contains HDPE pipe from 1 in to 42 in.

**Yard Fire System (YFS)** - The Yard Fire System (YFS) detects and suppresses fires outside the Standard Plant during plant construction and operation. The YFS consists of water distribution systems, automatic and manual suppression systems, fire detection and alarm system, and portable fire extinguishers. The YFS system contains 6 in to 12 in HDPE underground pipe.

**Electrical Site Power Distribution System (ESPDS)** – ESPDS provides the electrical power for all construction (temporary power) and retail (permanent and temporary) loads for the Units.

**Grounding and Lightning Protection System (EGS)** – The grounding and lightning protection system provides personnel safety and investment protection by maintaining safe voltages across the station during high voltage transients, providing a low impedance ground fault current return path, minimizing noise interference and minimizing the effects of lightning surges.

**Transmission Switchyard** - A switchyard will be used to transmit electrical power output from the AP1000 units to the South Carolina Electric and Gas (SCE&G) and Santee Cooper 230kV transmission systems. The switchyard will also be used as a power source for plant auxiliaries when the units are in the startup or shutdown modes, or when the units are not generating. The switchyard is constructed in a 10 bay, breaker-and-half arrangement. The switchyard connection to the AP1000 units is made through additional 230kV circuit breakers provided at the high side connections of the main step up transformers and reserve auxiliary transformers.



## PERMANENT BUILDINGS AND STRUCTURES

These buildings and structures are a part of the permanent Facility but are outside the footprint of the AP1000 Standard Plant.

Permanent Plant Buildings and Structures include:

- Maintenance Support Service Building
- Personnel Access Point Building
- Permanent Warehouse
- Raw Water Intake Structure
- 230 kV Switchyard Control Building
- Circulating Water System Switchgear and MCC Buildings
- Circulating Water System Pump Structures
- Cooling Tower Foundations
- Blowdown Sump
- RWS Switchgear and MCC Building
- Waste Water Discharge Structure
- Lampson Crane Pads

### 2.4 Security Infrastructure

The security infrastructure associated with the AP1000 Plant includes the security system (SES) for the design and hardware inside the Standard Plant and the access portals, equipment and barriers to control access to the Protected Area. The Protected Area access and barriers will be designed and constructed to include:

- Barriers to vehicle access including big rocks and pop-up road barrier
- Fencing
- Gravel base between fencing
- Lighting
- Communications
- Access control system
- Intruder detection systems including cameras and infrared sensing systems
- Security building at main access portal
- Vehicle access portal
- Main road security post
- Search area equipment
- Security power system

A detailed description of the Site security infrastructure will be provided in Phase 1.

### 3.0 Test Program

The overall objective of the test program is to demonstrate that the plant has been constructed as designed, that the systems perform consistent with the plant design, and



that activities culminating in operation at full licensed power including initial fuel load, initial criticality, and power ascension are performed in a controlled and safe manner. The plant test program consists of a series of tests categorized as Construction and Installation Tests, Preoperational Tests, Startup Tests and Performance Test. The test program is described in the Agreement.

Plant operating, emergency, and surveillance procedures are incorporated into the initial test program procedures. These procedures are verified through use, to the extent practicable, during the Preoperational Test program and revised if necessary, prior to fuel loading.

Equipment used in the performance of Preoperational Tests is operated in accordance with appropriate operating procedures, thereby giving Owner's operating staff an opportunity to gain experience in using these procedures and demonstrating their adequacy prior to plant initial criticality.

Where applicable, Preoperational Tests may proceed on an individual system that has completed its Construction and Installation Test, prior to completion of all Construction and Installation Tests.

### **3.1 Startup Administrative Manual**

Owner is responsible for a manual ("Startup Administrative Manual") and administrative procedures that provide detailed requirements and govern the execution of activities associated with the conduct of the test program, including the organization, structure and functional relationships of the Joint Test Working Group and the startup organization. Preparation of the Startup Administrative Manual is delegated to Contractor by Owner. The Startup Administrative Manual will address the following:

- Organization and functional relationships of the Joint Test Working Group
- Startup administrative and test procedures preparation, review, approval and change
- Planning, preparation and performance of Startup Tests
- Startup Test evaluation and approval
- Process controls for the turnover of systems from Contractor to the Joint Test Working Group for additional testing, operation and maintenance
- Procedures to assure proper work permits and system tagging occurs
- Reporting and the elimination of defects during startup
- Joint Test Working Group document control
- Control of keys, electrical jumpers, lifted leads, mechanical jumpers and blind flanges
- Startup Test scheduling and authorization for changes
- Test configuration control to monitor the status of each system including any retest requirements deemed necessary

- Certification of test Personnel
- Controls for the format, generation, approval, issuance and use of specific test specifications and test procedures
- Quality assurance and quality control oversight

Owner is responsible for review and evaluation of individual test results as well as final review of overall test results and for review of selected Milestones or Hold Points within the test phases. Test exceptions or results which do not meet acceptance criteria are identified to the affected and responsible design organizations, and corrective actions and retests, as required, are performed.

### 3.2 Organization

The specific staff, staff responsibilities, authorities, and personnel qualifications for performance of the AP1000 initial test program are the responsibility of the Owner. This test organization is responsible for the planning, executing, and documenting of the Unit initial testing and related activities that occur between the completion of plant/system/component construction and commencement of Unit commercial operation. Transfer and retention of experience and knowledge gained during initial testing for the subsequent commercial operation of the Unit is an objective of the test program.

Contractor's personnel providing testing services, Technical Support and/or field support shall work with the Owner's operating organization in the test organization (hereinafter referred to as the "Joint Test Working Group"). Owner will delegate to Contractor the implementation and direction of the initial test Program. Contractor will estimate the personnel, including supervisors, engineers, technicians, operators, maintenance and test support personnel, chemistry personnel, health physics personnel and any other personnel required to perform the initial test program during Phase 1. Contractor and Owner will mutually agree who shall supply the required personnel prior to the conduct of the initial test program. Contractor will have overall responsibility and authority for technical direction of the initial test program and will act as the Joint Test Working Group Chairman. The Joint Test Working Group Chairman will report to Owner for matters of Startup Test authority and acceptance. The Joint Test Working Group will review and evaluate Construction and Installation Test, Preoperational Test and Startup Test results and test Turnover packages and recommend acceptance of the Turnover to the Owner.

The Joint Test Working Group shall be responsible for ensuring that preoperational and startup activities are performed correctly and completely in accordance with the COL requirements.

The Joint Test Working Group shall provide to Owner a preoperational and startup schedule. This detailed schedule shall incorporate a logical sequence of testing formulated on modular construction and testing of structures, areas, equipment, components, and systems. The schedule shall also be prepared to account for use of temporary construction power as needed to support operations and testing if permanent

power is not available, as well as the use of a temporary demineralizer to facilitate flushing of piping systems if the permanent plant demineralizer is not available. The test schedule shall support Contractor's overall construction schedule for the Unit.

A Preoperational Test group ("Preoperational Test Group") will be established by the Joint Test Working Group and be manned by the Contractor and Owner personnel as mutually agreed by Owner and Contractor. The Preoperational Test Group will consist of engineering test leads and test personnel. The Preoperational Test Group will perform the following functions and scope of work, as necessary to support the test program:

- Coordinate tagging and maintenance prior to turnover to the Startup Test Group to support system acceptance testing
- Accept systems for turnover from the installation organization
- Plan, scope and schedule plant systems for testing
- Manage and oversee testing of plant systems to support the test program
- Resolve open items and exceptions identified during the test program
- Accept and turnover Preoperational Test packages to Owner
- Coordinate and support tasks required during Preoperational Test activities with responsible groups

A Startup Test group ("Startup Test Group") will be established by the Joint Test Working Group and be initially manned by Contractor and Owner personnel as mutually agreed by Owner and Contractor. The Startup Test Group will consist of engineering test leads and test personnel. The Startup Test Group will perform the following functions and scope of work, as necessary to support the test program:

- Coordinate tagging and maintenance prior to turnover to the Startup Test Group to support system acceptance testing
- Accept systems for turnover from the Preoperational Test Group
- Plan, scope and schedule plant systems and equipment for testing, to support plant startup
- Manage and oversee testing of plant systems and equipment to support the plant power ascension test program
- Resolve open items and exceptions identified during the test program
- Accept and turnover Startup Test packages to the Owner
- Coordinate and support tasks required during Startup Test activities with responsible groups

A test support group ("Test Support Group") will be established by the Joint Test Working Group and be manned by Contractor and Owner personnel as mutually agreed by Owner and Contractor. The Test Support Group will consist of manpower and labor as needed to support all testing activities.

The Joint Test Working Group, while coordinating the test program will interface with Owner's operations personnel in the initial starting and operation of the various systems.

### 3.3 Responsibilities

#### 3.3.1 Joint Test Working Group Activities

In general, the main activities of the Joint Test Working Group during Preoperational Tests and Startup Tests shall include, but not be limited to, the following:

1. Management of all Preoperational Tests and Startup Tests
2. Technical direction, scheduling, and coordination of the Preoperational Tests and Startup Tests.
3. Acceptance of Unit subsystems and systems from construction turnover to the Owner's organization.
4. Startup records management consisting of development and maintenance of the preoperational and startup records. Examples are turnover documents, turnover punch list, instrument calibration data, completed test data, training records, startup engineers' qualification records, etc.
5. Management of the testing, calibration, and maintenance of instrumentation, equipment, and tools provided by Contractor.
6. Management of testing consumables.
7. Maintaining the overall Project Schedule requirements. The Joint Test Working Group shall ensure the implementation of test program activities in accordance with such schedules.
8. Startup schedule evaluation and analysis, control of the startup schedule, preparation of the progress report
9. Defining the necessary instrumentation and controls loop calibration procedures
10. Identification of turnover boundaries for startup system and subsystems
11. Establishment of turnover priorities from construction to startup
12. Managing the clearance of the remaining construction deficiencies during preoperational and startup phase
13. Conduct of the required tests
14. Record the test results and prepare the test report
15. Analysis of the test results and correction of deviations between the test result and design data
16. Preparation, review and approval of test procedures prior to testing, review and approve test results and test reports, and submit a final copy to Owner



### 3.3.2 Responsibilities of Owner

Owner's responsibilities include, but are not limited to:

1. Assisting Contractor as mutually agreed in performing the surveillances and functional tests to prepare the equipment and systems for the Construction and Installation Tests, Preoperational Tests and Startup Tests.
2. Performing oversight and surveillance of preoperational and startup activities related to quality and safety.
3. Identifying Owner Hold Points regarding testing activities, such as hot functional tests, fuel loading, and first criticality, in detailed testing procedures. At these Hold Points, the results of the tests already executed and the conditions for starting the next stage should be checked and reviewed by the Owner. Contractor shall propose Hold Points, which shall be reviewed by Owner in accordance with Section 5.6 of the Agreement.
4. Performing surveillances of Contractor's quality assurance and quality control activities in Contractor's premises.
5. Performing the review of proposed resolutions to abnormal situations.
6. Preparation, review and approval of completed test procedure results as a member of the Joint Test Working Group.
7. Accepting transfer of systems from Contractor to Owner.

### 3.3.3 General

If deviations or unresolved issues are encountered during testing, Contractor and Owner shall immediately proceed to identify the problems and their causes. Contractor shall then develop and take necessary corrective actions to resolve deviations and unresolved issues covered under Contractor's Scope of Work. Owner shall then develop and take necessary corrective actions to resolve deviations and unresolved issues not covered under Contractor's Scope of Work or resulting from an operating or maintenance issue. Contractor or Owner shall perform these actions in a timely manner to maintain the startup schedule. Contractor's liability in resolving and correcting the deviations and/or unresolved issues shall be subject to the provisions of the Agreement.

Contractor shall provide to Owner the necessary inputs, test procedures, technical manuals, and other Documentation related to foregoing tests. Contractor shall supply special test equipment and instruments for use in the Construction and Installation Tests, Preoperational Tests, and Startup Tests within Contractor's Scope of Work.



### **3.4 Lists of Documents and Procedures for Preoperational and Startup Operations**

Contractor shall submit to Owner the description of documents used for tests and a detailed list of test documents as required in the Startup Administrative Manual procedures. The Joint Test Working Group shall prepare test programs, procedures, and documentation suitably adapted to Site specific conditions. After the test, the test report shall be prepared by the Joint Test Working Group and submitted to Owner.

### **3.5 Qualification Requirements of Personnel for Preoperational and Startup Testing**

Personnel engaged in Preoperational Test and Startup Test activities shall be suitably qualified and experienced for the level of responsibility and importance to safety of their work.

### **3.6 Contractors Craft and Maintenance Support during Preoperational and Startup Testing activities**

Contractor will supply craft and maintenance support personnel to assist the Joint Test Working Group and Owner's maintenance organization on a Time and Materials Basis. The Contractor craft and maintenance support personnel necessary will be defined in the detailed plans for Construction and Installation Tests, Preoperational Tests, and Startup Tests.

## **4.0 Scope of Supply**

Table 1 details the responsibilities between the Owner (O) and Contractor (X) for providing the Site infrastructure, temporary facilities, buildings/ structures, plant systems, major equipment, modules and components which comprises each AP1000 Nuclear Power Plant. Each building is detailed as to its physical composition. The functional Equipment, components and commodities that comprise each system are highlighted. The table also depicts those program responsibilities for design, temporary facilities, program management, construction, testing, startup and commissioning of each facility. The items listed in Table 1 define the base scope of supply for the Agreement. Changes due to Supplier design maturity or Supplier initiated Design Change Packages (DCPs) may be made without impact to the Owner. Changes driven by the Owner are subject to Change Order.

In Table 1, the following definitions of column headings and letter symbols apply:

“O” means the Owner and its representatives.

“X” means the Contractor.

“Design Criteria” are the functional requirements and data required for the basic engineering of Site works, buildings, structures, modules systems or equipment.

“Detail Design” means the engineering analyses, calculations and detail design drawings and specifications in accordance with the “design criteria” for the supply, erection and construction of Site works, buildings, structures, modules, systems or equipment.

“Eq/Comp/Com Supply” means the procurement and supply of necessary material, components and equipment specified for Site works, buildings, structures, modules and systems.

“Install /Construct” means the erection, installation or construction of all mechanical and electrical equipment and systems and the completion of all temporary works, civil works including finishes and architectural treatments.

“Establish Requirements” specifies the party responsible for identifying and establishing the necessary activities that must be completed and provided.

“Provide For” establishes the party responsible for executing the scope including cost accountability and performance responsibility.

Where two organizations are shown for a specific task, the organization (O/X or X/O) first listed has lead responsibility and the second has responsibility to support.

The engineered programs ("Engineered Programs") required for the long term operation of the Facility need to be developed prior to power operation. In some cases, Owner may choose to utilize a program developed for and used by VC Summer Unit 1. For these Engineered Programs, Contractor will provide the design criteria with the program development and implementation provided by Owner. The design criteria provided by the Contractor will be the criteria established in the final design, fabrication and installation of the components.

A list of "Special Tools" will be provided in Table 4 of this Exhibit A. This list will contain equipment and software included in the Contract Price that will be left on Site at the end of construction for operation of the Facility. If necessary, this list will be updated during design finalization, installation and testing. A Special Tool is any tool or software needed for assembling, manipulating, or maintaining plant structures and equipment not readily available for retail purchase.

In accordance with the Project Execution Plan, the method of providing (lease or purchase) of Construction Equipment and facilities built for the express purpose of constructing the Units will be mutually agreed upon during Phase 1. Pricing will include a line item for the expected disposition of the Construction Equipment and the buildings during or in closeout of the project. Contractor and Owner will mutually agree upon the disposition of the Construction Equipment and the buildings, once their purpose has been met.

**EXHIBIT A – TABLE 1**  
**Scope Of Work / Supply**  
**And Division Of Responsibility**

**EXHIBIT A-TABLE 1 SCOPE of WORK/SUPPLY AND DIVISION OF RESPONSIBILITIES**

<b>PROJECT SERVICES</b>	<b>ESTABLISH REQUIREMENTS</b>	<b>PROVIDE FOR</b>
Project Management	X	X
Engineering & Design (Non NuStart)	X	X
Construction Management	X	X
Site Engineering	X	X
Nuclear Safety/Licensing (post NuStart)	O/X	O/X
Supply Chain Management/Expediting	X	X
QA/QC	X	X
Construction Execution Plan	X	X
Construction & Startup Schedule	X	X
Information Management System	X	X
3-D Model	X	X
Independent Nuclear/Third Party Inspections (Owners discretionary)	O	O
Construction Training/Welder Qualification	X	X
AP1000 Site Documentation Control	X	X
Project Control Services (Schedule and cost reporting)	X	X
Licensing & Regulatory	O	O/X
Construction Training / Welder Qualification	X	X
Financial/Accounting	X	X
NRC Inspection Fees	O	O
COLA and Licensing Support (T&M basis as required)	O	O/X

<b>ENGINEERED PROGRAMS</b>	<b>Design Criteria</b>	<b>Program Development</b>	<b>Program Implementation</b>
Motor-Operated Valve Program	X	O	O
Air-Operated Valve Program	X	O	O
In-service Inspection Program	X	O	O
In-service Test Program			
Containment Leak-Rate Testing			

<b>ENGINEERED PROGRAMS</b>		<b>Design Criteria</b>	<b>Program Development</b>	<b>Program Implementation</b>
Environmental Qualification		X	O	O
Flood Protection		X/O	O	O
Protective Coatings Systems		X	O	O
Probabilistic Risk Assessment		X	O	O
Appendix R / NFPA (Fire Protection)		O/X	O	O

<b>SERVICES</b>		<b>Design Criteria</b>	<b>Program Development</b>	<b>Program Implementation</b>
AP1000 Standard Emergency Operation Procedures		X	X	O
AP1000 Standard Operating Procedures		X	X	O
AP1000 Maintenance Procedures		X	O	O
AP1000 Quality Program & Procedures		X	X	X
Site Material Control		X	X	X
Operator and Staff Training		X	O	O

<b>OTHER SCOPE</b>		<b>ESTABLISH REQUIREMENTS</b>	<b>PROVIDE FOR</b>
Spare Parts (to be defined in accordance with Agreement)		X/O	X/O
Shop and Maintenance Equipment (Table 4)		X/O	X
COLA and Licensing Support (T&M Basis as required)		O	O/X
Consumables First Fill		X	X

<b>INSURANCE</b>		<b>ESTABLISH REQUIREMENTS</b>	<b>PROVIDE FOR</b>
Per Agreement Articles 15 and 16		O/X	O/X



TESTING, STARTUP & COMMISSIONING	ESTABLISH REQUIREMENTS	PROVIDE FOR
AP1000 Startup Program Development and Technical Direction of Initial Test Program	X	X
Simulator hardware	O/X	O/X
O & M Training	X/O	X/O
Test Equipment	X/O	X/O
Construction (Functional) Testing	X/O	X/O
Preoperational Testing	X/O	X/O
Startup (Functional) Tests	X/O	X/O
Maintenance following System Turnover	O/X	O/X
Pre-Service Inspection (ASME Section XI)	X/O	X
Core Loading	O	O/X
Initial Criticality	X/O	O/X
Performance Tests	X/O	X/O
In-Service Inspection	X/O	X/O
Test Reports	X	X
Testing and Operating Procedures	X/O	X/O
Special Tools, Laboratory, Calibration & Test Equipment	X	X/O

GENERAL & ADMINISTRATIVE	ESTABLISH REQUIREMENTS	PROVIDE FOR
Inland Transportation – Permits/Expenses	X/O	X
Sales & Use Taxes (Permanent Equipment)	O/X	O
Sales & Use Taxes (Contractor's goods, tools, equipment, supplies and other consumables not permanently incorporated into the Facility)	X	X
Construction Permits & Licenses (See Exhibit C)	X/O	X/O
Operation Permits & Licenses	X/O	O
Performance Bond, if required	X/O	X
Labor Taxes & Welfare	X	X
Contractor's Personnel Expenses		X
Import / Duty Tax	X/O	X

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GENERAL & ADMINISTRATIVE	ESTABLISH REQUIREMENTS	PROVIDE FOR
Telephone and Internet usage	X	X
Power Usage	O	O

CONSTRUCTION SERVICES	ESTABLISH REQUIREMENTS	PROVIDE FOR
AP1000 Construction and Installation Tests, prior to turnover to operations.	X	X
Land line telephone and internet service to the site see note c	O/X	O
Power to site see note d	X	X
Normal replacement items, fuel, oils and other consumables	X	X
Distribution of temporary power, including switchgear-	X	X
Temporary power back-up diesels as needed:-	X	X
Permanent fire protection hydrants:-	O/X	X
Fire fighting system: trucks, pumps, local fire station involvement, etc.	X/O	O
Construction Sanitary Facilities	X	X
Solid waste, trash & garbage disposal:-	X	X
Temporary lay down areas	X	X
Construction Site Security	X	X
Temporary Nuclear Security Program / People	O	O
Temporary Nuclear Security Physical Structures	O	O
Construction lighting	X	X
Excavation spoil dump areas	O/X	X
Site communications (for construction)	X	X
Public address system (for construction)	X	X
Environmental monitoring during construction	X/O	X
Concrete batch plant	X	X
Lampson Crane & runway, yard cranes and construction vehicles	X	X

<b>CONSTRUCTION SERVICES</b>	<b>ESTABLISH REQUIREMENTS</b>	<b>PROVIDE FOR</b>
Construction Equipment Rentals/Leases	X	X
Material Laydown and Assembly	X	X
Temporary Water and Ice	X	X
Security of Perimeter and Construction Site	O/X	X
First Aid and Staffing	X	X
Craft Facilities, Tools & Equipment	X	X
Industrial Safety and Inspection	X/O	X
Construction Cleanup	X	X
Construction Safety Program	X	X
Temporary Warehouse	X	X
Field Offices, Office Equipment & Computers	X/O	X
Construction Equipment Maintenance Shops/Fuel Storage	X	X

DESCRIPTION	SINGLE- POINT RESPONSIBILITY			
	Design Criteria	Detail Design	EQ/Comp Com. Supply	Install Construct
<b>SITE INFRASTRUCTURE</b>				
<b>SITE DEVELOPMENT &amp; PREPARATION</b>				
All On-Site Permits including: regulatory, water discharge, water supply and environmental	O/X	X	X	
Environmental Impact Assessment and Statement (EIS)	O	O	O	
Borings associated with site boundary construction, roads and haul routes	X	X	X	X
Borings associated with additional scope roads and haul routes – intake, discharge, site access, etc.	X	X	X	X
Evaluation of Detailed Geotechnical Reports- From COLA	X/O	X		
Soil Investigation & Borings -For Final Layout Plan	O	O/X	O	O
Site Emergency Notification Equipment	O	O	O	O
Site Construction Entrance Roads	O/X	X	X	X
Temporary Nuclear Security Boundary	O/X	O/X	X	X
Construction Site Fencing	O/X	X	X	X
Deforestation	O	O	O	O
Establish Site Datums- Elevations & Azimuth	X/O	X	X	X
Relocation of Existing Utilities	O/X	O	O	O
Relocation of Transmission Lines	O/X	O	O	O
Relocation, Extension, Distribution or Removal of Existing Utilities	O/X	X	X	X
Site Clearing, Grubbing, Planting & Removal of Spoil	X	X	X	X
Slope & Shore Protection including Rip-Rap	X	X	X	X
Temporary & Permanent Drainage & Flood Protection, if required	X	X	X	X
Temporary & Permanent Storm Water Ponds, if required	X	X	X	X
Construction Waste Water Retention & Disposal	X	X	X	X
Excavation, Backfill & Dewatering & Soil Dumps	X	X	X	X
Barge Unloading Facility & Dredging Immediate Area	N/A			
Removal of Existing Landfills	O	O	O	O

DESCRIPTION	SINGLE- POINT RESPONSIBILITY			
	Design Criteria	Detail Design	EQ/Comp Com. Supply	Install Construct
Relocation of existing Structures and Facilities	O	O	O	O
Demolition of Existing Foundations and Structures	O	O	O	O
Pilings and Caissons, if required	X	X	X	X
Alternate Offsite Power & Fiber Optics Reroute	X	X	X	X
<b>ROADS</b>				
Permanent Site Access-Heavy Haul Road	O/X	X	X	X
Internal Site Roads & Parking	O/X	X	X	X
Heavy Haul Road & Crane Lift Pathways	X	X	X	X
Road between existing plant and new plant	O/X	X	X	X
Existing Access Road Modifications (incl. Cty Rd. 16)	X	X	X	X
<b>RAILROAD</b>				
Railroad Rerouting & Extension Within Site Boundary	O/X	X	X	X
Permanent On-Site Railway & Facilities	O/X	X	X	X
Rail Spur To Concrete Batch Plant	X	X	X	X
Evaluate and upgrade Owner owned rail spur to main line if required	X/O	X	X	X
<b>RAW, POTABLE &amp; FIRE SUPPRESSION WATER</b>				
Filtered Water Supply	O/X	X	X	X
Filtered (Potentially Raw) Water On-Site Fire Suppression Ring	X	X	X	X
Filtered Water On-Site Distribution	X	X	X	X
Potable Water Treatment & Supply	O/X	X	X	X
Potable Water Relocation, Extension & Distribution	X	X	X	X
<b>PERMANENT PLANT FACILITIES</b>				
Administration Building	O	O	O	O
Simulator & Training Facility	O	O	O	O
Remote Technical Support Center	O	O	O	O
Emergency Operations Facility, if required	O	O	O	O



DESCRIPTION	SINGLE- POINT RESPONSIBILITY				Install Construct
	Design Criteria	Detail Design	EQ/Comp Com. Supply		
High Voltage Switchyard	O	X	X		X
Station Main Transformers	O/X	X	X		X
Duct Banks & Underground Cable to High Voltage Switchyard	X/O	X	X		X
Duct Banks & Underground Cable for Contractor Supplied (AP1000 Plant)	X/O	X	X		X
Duct Banks & telephone and Internet conduit for Owner Supplied Structures and Facilities	O	X	X		X
Land Line - Telephone & Internet to Site	O	O	O		O
Bulk Gas Storage Facilities	X	X	X		X
Chemical Storage Facilities	X	X	X		X
Raw Water Intake Structure & Pumps including piping	O/X	X	X		X
Effluent Wastewater Process/Discharge Structure	O/X	X	X		X
Cooling Tower – Forced Draft	X	X	X		X
Permanent Warehouse inside the Protected Area	X/O	X/O	X		X
Grounding & Lightning Protection Systems & Structures for Contractor Supplied buildings	X/O	X	X		X
Permanent Site Lighting	X/O	X	X		X
Distributed Control System- Systems Outside of AP 1000 Plant	X/O	X	X		X
Fuel Oil Storage Tank & Foundations/Walls and pipe routing from oil tank to diesel generator building day tank, diesel fire pumps and auxiliary boiler	X	X	X		X
Dry Cask Storage Facility	O	O	O		O
Rad Waste facility Long term	O	O	O		O
Plant Maintenance Shops	O/X	X	X		X
Sewage Treatment Facility	O/X	X	X		X
New Water Treatment Facility	O/X	X	X		X
Main Entrance Guard Station Personnel Access to Protected Area	O/X	X	X		X
Main Entrance Guard Station Truck Access to Protected Area	O/X	X	X		X
Common Maintenance Support Service Building	O/X	X	X		X

DESCRIPTION	SINGLE- POINT RESPONSIBILITY			
	Design Criteria	Detail Design	EQ/Comp Com. Supply	Install Construct
Circulating Water System Switchgear and MCC Buildings	X	X	X	X
Circulating Water System Pump Structures	X	X	X	X
Cooling Tower Foundations	X	X	X	X
Final Landscaping	X/O	X	X	X
Facility Signage	O	O	O	O
Permanent Nuclear Security Boundary	O/X	O/X	X	X
Permanent Emergency Notification Equipment	O	O	O	O

WORK BREAKDOWN	DESCRIPTION	SINGLE- POINT RESPONSIBILITY					Scope	DOR
		Design Criteria	Detail Design	EQ/Comp Com. Supply	Install Construct			
	BUILDINGS & STRUCTURES							
1100	Shield Building, complete structure & finishes	X	X	X	X		1	
	Containment, complete structure & finishes	X	X	X	X		1	
1200	Auxiliary Building, complete structure & finishes	X	X	X	X		1	
2000	Turbine Building, complete structure & finishes	X	X	X	X		1	
4000	Annex Building, complete structure & finishes	X	X	X	X		1	
5000	Radwaste Building, complete structure & finishes	X	X	X	X		1	
6000	Diesel Generator Building, complete structure & finishes	X	X	X	X		1	

WORK BREAKDOWN	DESCRIPTION	SINGLE- POINT RESPONSIBILITY				Scope	DOR
		Design Criteria	Detail Design	EQ/Comp Com. Supply	Install Construct		
	SYSTEMS, EQUIPMENT, COMPONENTS & COMMODITIES						
ASS	Auxiliary Steam Supply System	X	X	X	X	1	
BDS	Steam Generator Blowdown	X	X	X	X	1	
CCS	Component Cooling Water System	X	X	X	X	1	
CAS	Compressed Air System	X	X	X	X	1	
CDS	Condensate System	X	X	X	X	1	
CES	Condenser Tube Cleaning System	X	X	X	X	1	
CFS	Turbine Island Chemical Feed System	X	X	X	X	2	
CMS	Condenser Air Removal System	X	X	X	X	1	
CNS	Containment System	X	X	X	X	1	
CPS	Condensate Polishing System	X	X	X	X	1	
CVS	Chemical & Volume Control System	X	X	X	X	1	
CWS	Circulating Water System	X	X	X	X	3	
DAS	Diverse Actuation System	X	X	X	X	1	

WORK BREAKDOWN	DESCRIPTION	SINGLE- POINT RESPONSIBILITY					Scope	DOR
		Design Criteria	Detail Design	EQ/Comp Com. Supply	Install Construct			
DDS	Data Display & Processing System	X	X	X	X	X	1	
DOS	Standby Diesel Fuel System	X	X	X	X	X	4	
DRS	Storm Drain System	X	X	X	X	X	5	
DTS	Dematerialized Water Treatment System	X	X	X	X	X	1	
DWS	Dematerialized Water Transfer & Storage System	X	X	X	X	X	1	
ECS	Main AC Power plant electrical system	X	X	X	X	X	1	
EDS	Non Class 1E DC & UPS System	X	X	X	X	X	1	
EFS	Communications System, plant wide	X	X	X	X	X	6	
EGS	Grounding & Lightning Protection System	X	X	X	X	X	7	
EHS	Special Process Heat Tracing System	X	X	X	X	X	1	
ELS	Plant Lighting System	X	X	X	X	X	8	
EQS	Cathodic Protection System	X	X	X	X	X	9	
FHS	Fuel Handling & Refueling System	X	X	X	X	X	10	
FPS	Fire Protection System	X	X	X	X	X	1	
FWS	Main & Startup Feedwater System	X	X	X	X	X	1	

WORK BREAKDOWN	DESCRIPTION	SINGLE- POINT RESPONSIBILITY					Scope	DOR
		Design Criteria	Detail Design	EQ/Comp Com. Supply	Install Construct			
GSS	Gland Seal System	X	X	X	X	1		
HCS	Generator Hydrogen & CO2 Systems	X	X	X	X	1		
HDS	Heater Drain System	X	X	X	X	1		
HSS	Hydrogen Seal Oil System	X	X	X	X	1		
IDS	Class 1E DC and UPS System (Division A to D)	X	X	X	X	1		
IIS	Incore Instrumentation System	X	X	X	X	1		
LOS	Main Turbine & Generator Lube Oil System	X	X	X	X	1		
MES	Meteorological & Environmental Monitoring System	O	O	O	O	11		
MHS	Mechanical Handling System	X	X	X	X	1		
MSS	Main Steam System	X	X	X	X	1		
MTS	Main Turbine System	X	X	X	X	1		
OCS	Operation & Control Centers	X	X	X	X	1		
PCS	Passive Containment Cooling System	X	X	X	X	1		
PGS	Plant Gas System	X	X	X	X	12		
PLS	Plant Control System	X	X	X	X	13		



WORK BREAKDOWN	DESCRIPTION	SINGLE- POINT RESPONSIBILITY					Scope	DOR
		Design Criteria	Detail Design	EQ/Comp Com. Supply	Install Construct			
PMS	Protection & Safety Monitoring System	X	X	X	X	X	1	
PSS	Primary Sampling System	X	X	X	X	X	1	
PWS	Potable Water System	X	X	X	X	X	14	
PXS	Passive Core Cooling System	X	X	X	X	X	1	
RCS	Reactor Coolant System	X	X	X	X	X	1	
RDS	Gravity & Roof Drain Collection System	X	X	X	X	X	1	
RMS	Radiation Monitoring System	X	X	X	X	X	15	
RNS	Normal Residual Heat Removal System	X	X	X	X	X	1	
RWS	Raw Water System	O/X	X	X	X	X	16	
RXS	Reactor System	X	X	X	X	X	1	a
SDS	Sanitary Drainage System	X	X	X	X	X	17	
SES	Plant Security System	X	X	X	X	X	18	
SFS	Spent Fuel Pit Cooling System	X	X	X	X	X	1	
SGS	Steam Generator System	X	X	X	X	X	1	
SJS	Seismic Monitoring System	X	X	X	X	X	19	

WORK BREAKDOWN	DESCRIPTION	SINGLE- POINT RESPONSIBILITY					Scope	DOR
		Design Criteria	Detail Design	EQ/Comp Com. Supply	Install Construct			
SMS	Special Monitoring System	X	X	X	X	1		
SSS	Secondary Sampling System	X	X	X	X	1		
STS	Simulator Training System	X	X	X	X	20	b	
SWS	Service Water System	X	X	X	X	1		
TCS	Turbine Bldg. Closed Cooling Water System	X	X	X	X	1		
TDS	Turbine Island Vents, Drains & Relief System	X	X	X	X	1		
TOS	Main Turbine Control & Diagnostics	X	X	X	X	1		
TVS	Closed Circuit TV System	X	X	X	X	21		
VAS	Radiologically Controlled Area Ventilation system	X	X	X	X	1		
VBS	Nuclear Island. Non-radioactive Ventilation System	X	X	X	X	1		
VCS	Containment Recirculation Cooling System	X	X	X	X	1		
VES	Main Control Rm. Emergency Habitability System	X	X	X	X	1		
VFS	Containment Air Filtration System	X	X	X	X	1		
VHS	Health Physics & Hot Machine Shop HVAC System	X	X	X	X	1		
VLS	Containment Hydrogen Control System	X	X	X	X	1		

WORK BREAKDOWN	DESCRIPTION	SINGLE- POINT RESPONSIBILITY					Scope	DOR
		Design Criteria	Detail Design	EQ/Comp Com. Supply	Install Construct			
VRS	Radwaste Building HVAC System	X	X	X	X	1		
VTS	Turbine Building Ventilation System	X	X	X	X	1		
VUS	Containment Leak Rate Test Systems	X	X	X	X	22		
VWS	Central Chilled Water System	X	X	X	X	1		
VXS	Annex/Aux Bldg Non-radioactive Ventil. System	X	X	X	X	1		
VYS	Hot Water Heating System	X	X	X	X	1		
VZS	Diesel Gen. Bldg. Ventilation System	X	X	X	X	1		
WGS	Gaseous Radwaste System	X	X	X	X	1		
WLS	Liquid Radwaste System	X	X	X	X	23		
WRS	Radioactive Waste Drain System	X	X	X	X	1		
WSS	Solid Radwaste System	X	X	X	X	1		
WWS	Waste Water System	X	X	X	X	24		
ZAS	Main Generation System	X	X	X	X	1		
ZBS	Transmission Switchyard & Offsite Power System - Plant Feed Only	X	X	X	X	26		
ZOS	Onsite Standby Power System	X	X	X	X	27		

WORK BREAKDOWN	DESCRIPTION	SINGLE- POINT RESPONSIBILITY				Scope	DOR
		Design Criteria	Detail Design	EQ/Comp Com. Supply	Install Construct		
ZVS	Excitation & Voltage Regulation System	X	X	X	X	1	

## Notes:

- “complete & inclusive of” and “inclusive of” equally mean the responsibility of Contractor as denoted by “X” or “O” for Owner.
- On-site permits including, but not limited to, Environmental, Dredging, Occupancy, Waste Disposal & Handling, Health & Safety, Transportation, B2022 Discharge & Release, Petroleum Storage, Hazardous waste, Storm Water & Runoff Control, Fire & Emergency, etc.

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Notes for Preceding Section		
Note	System	Details
<b>Scope of Work Notes:</b>		
10	FHS	<p>Fuel handling equipment is to be supplied complete and inclusive as described in the DCD and to include all specialty tools required to perform fuel handling and maintenance activities. FHS is to be complete and inclusive of, but not limited to, the following special tools and equipment:</p> <p>FHS Underwater Camera System            Portable Underwater Light            New RCC Handling Tool            New Fuel Assembly Handling Tool            Spent Fuel Assembly Handling Tool            Wet Annular Burnable Absorber Handling Tool            Control Rod Drive Unlatch Tool            Control Rod Drive Shaft Handling Tool            Irradiated Sample Handling Tool            Rod Control Cluster Handling Tool            Irradiation Sample End Plug Seating Jack</p> <p>RV Upper Internals Storage Stand            Reactor Lower Internals Storage Stand            Reactor Vessel Head Lifting Jig            RV Stud Bolt Automatic Rotation Devices            RV Stud Bolt Nut Bolting Tools            RV Stud Bolt Air Balancers            RV Stud Bolt Lifting Wire Twist Return Jigs            RV Stud Bolt Wrenches            RV Stud Bolt Elongation Measurement Device            RV Stud Bolt Tensioner Electric Hoists            Thimble Plug Handling Tool</p>
		<p>Refueling Mach / SF Handling Mach Load Test Fixture            Fuel Transfer Upender Pump (OC)            Refueling Pool Underwater Filter System            Integrated Head Storage Tank            Spent Fuel Cask Loading Pit Gate            Permanent Reactor Cavity Seal Ring            Reactor Vessel (RV) Stud Tensioners            RV Internals Lifting Rig</p> <p>Generic Refueling Toolbox            RV Stud Hole Plug Handling Tool            RV Stud Hole Plugs            RV Stud Bolt Lifting Eyebolts            RV Stud Bolt Protection Caps            RV Guide Studs</p>
11	MES	The only equipment included within the scope of this system is the necessary equipment, cabling and installation activities necessary to feed data from the existing met tower to the Unit 2 and Unit 3 control rooms and the technical support center.
12	PGS	Bulk gas supply systems (including cryogenic tanks, vaporizer, pumps and control valves) may include permanent tanks purchased by the Contractor or leased equipment under a lease agreement that will transfer to the Owners.
13	PLS	The plant control system includes the Standard Plant equipment as described in Note 1 plus controls for all Site-specific equipment including but not limited to CWS, RWS, and the Yard Fire System (YFS).
14	PWS	Note 1 applies to the Standard Plant potable water distribution headers and equipment within the AP1000 Nuclear Power Plant power block. Additionally, Contractor's Site-specific Scope of Work includes a common permanent potable water supply system consisting of pumps, all required valves, piping and controls. The Site-specific Scope of Work also includes the PWS to new normally occupied Site-specific support buildings and facilities

Notes for Preceding Section		
Note	System	Details
<b>Scope of Work Notes:</b>		
15	RMS	Note 1 applies to the radiation monitor system within the AP1000 Nuclear Power Plant power block. In addition to this equipment, the scope of this system includes any radiation monitors required for the CSC which is part of the Site-specific Scope of Work.
16	RWS	The RWS is a Site-specific system and includes the river water supply and distribution. The river water system includes traveling screens, screen wash pumps, main pumps, plus all valves, piping and other equipment necessary to deliver necessary makeup flow to the circulating water system.
17	SDS	Sanitary drains is a Site-specific system, and includes all equipment, piping and lift stations necessary to transfer waste from all new permanent facilities to the treatment facility.
18	SES	Site security system includes the standard design for the AP1000 power block out to and including the red zone fence, as developed jointly by the Contractor and Owners. Outside the red zone, the security scope includes all installations necessary to fully implement a protected area with all required surveillance and intrusion detection equipment, all vehicle barriers (passive and active), and all required fencing and delay features.
19	SJS	Note 1 applies to seismic monitors and instrumentation with the AP1000 Nuclear Power Plant buildings. The Site-specific configuration of the free-field monitor is to include a single free-field monitor for each Unit.
20	STS	The simulator system is to include two standard AP1000 Nuclear Power Plant simulators, delivered and installed by the Contractor in a building provided by Owners.
21	TVS	The Scope of Work with respect to the closed circuit TV system is to be "as required" for monitoring of high radiation and contaminated work areas in the containment based on ALARA work requirements.
22	VUS	The Scope of Work includes all installed instrumentation and equipment plus all special flanges, fittings and equipment. Required temporary equipment readily available as leased equipment (e.g., air compressors) need not be included in the permanent scope of equipment supplied.
23	WLS	Note 1 applies to liquid waste system within the AP1000 Nuclear Power Plant buildings. Site-specific discharge path is to be routed via shielded piping with leak detection capability from the outside wall of each Unit to a common dilution point just prior to the main plant discharge into the Parr Reservoir. Design is to meet NRC regulations 10 C FR20.1406 for tritium control.
24	WWS	Note 1 applies to that portion of the waste water system within the AP1000 Nuclear Power Plant buildings. Contractor's Site-specific Scope of Work is to include a single VWRB for each Unit. VWRB is to include sensors and controls as described in the DCD. The Site-specific Scope of Work also includes removing waste water from new normally occupied Site-specific support buildings and Facility.
25		Not used.

Notes for Preceding Section	
Note	System Details
<b>Scope of Work Notes:</b>	
26	ZBS The switchyard and off-Site transmission system includes all equipment from the high side of the generator step-up transformers and the high side of the reserve aux transformers through the switchyards to the off-Site transmission lines leaving the Site.
27	ZOS Note 1 applies to the on-Site A/C power supply system within the AP1000 Nuclear Power Plant Scope of Work. There is a separate diesel-electric supply system for the TSC that is described separately.
<b>Division of Responsibility Notes</b>	
a	RXS Fuel assemblies, control rods, grey rods, and startup sources will be provided at the cost of the Owners.
b	STS Owner to supply building with all required power and lighting, Contractor to supply, install and test each simulator. Owner to supply control room furnishings to mimic control room.
c	 Telephone and internet service to be provided by Owner to Site location. Contractor to route on Site.
d	 Electric power will be supplied from the existing construction power transformer and from a utility pole at the intersection of Highway 213 and Parr Road.

## EXHIBIT A Table 2

### AP1000 Documentation Deliverables

AP1000 Facility Information classified as Proprietary Class 2 Releasable (i.e., deliverable under this Agreement) and Non-Proprietary Class 3 documents specifically related to the design, construction, operation and maintenance of the Facility provided under this Agreement shall be provided from the Contractor's Information Management System (IMS) in electronic format via access through a controlled website or similar electronic information portal. The final list of the documentation types to be provided for Owner's access will be developed by Contractor and approved by the Owner during Phase I, and expected to include but not limited to the types of deliverable documents as provided in Table 2-1.

Instructions for access to these documents shall be provided by Contractor for use by Owner's personnel, including listing of index fields and query options. This information may be electronically posted on the IMS. The controlled documents will be provided with revision level control, and be uniquely designated.

A majority of the Facility Information quality records will be provided in an electronic format that is an imaged document. Contractor recognizes that the Owner may be required to revise documents in the future to maintain configuration control and operate the Facility. Contractor will therefore make a good faith effort to provide access or deliver the best available native files for the documents provided to the Owner. Owner will be responsible for the content and use of these native files. Contractor shall not be responsible for any consequences resulting from the Owner's use of these native files.

Contractor also recognizes that the Owner desires the Facility Information and related database files information and the file attributes that would facilitate transfer to the Owner's data management system. Contractor will make available the databases and the data models for the Facility Information and cooperate with the Owner and a third party vendor to transfer the data and data files into a format compatible with the Owner's data management system. Work related to the conversion of data files or support of converting the data files into the Owner's database system will be subject to a Change Order.

Designation of Proprietary Data will be defined on a document level, which is classified in accordance with WCAP 7211, Revision 5, "Proprietary Information and Intellectual Property Management Policies and Procedures" or NDG 10-01-00 Revision 0, "Proprietary Information and Intellectual Property Management Policies and Procedures" for Westinghouse and Stone & Webster information respectively. Stone & Webster will provide NDG 10-01-00 for review and approval during Phase 1.

Proprietary Class 2 Releasable information is sensitive business and technical information that Owner may not disclose without Contractor's prior written authorization except as otherwise provided in Article 19 of the Agreement. Proprietary Class 2 Releasable documents will be marked "Proprietary Class 2". Per Article 19 of the Agreement, Proprietary Class 2 documents are further categorized into two classes of documents. One class is "Non-disclosable" to Third

Parties without prior Contractor written consent. The other class of Proprietary Class 2 Releasable documents is “Disclosable” to Third Parties, provided that a confidentiality agreement, as provided in Exhibit O-1, is executed prior to any such disclosure. Article 19 provides the principles that apply for determining whether documents are disclosable to Third Parties. Additionally the attributes in the data files in the Information Management System will identify the documents as “Disclosable” or “Non-disclosable”.

Non-Proprietary Class 3 information is non-sensitive information that may be distributed both internally and externally to Contractor. This is information which, if published, would not result in the loss of an existing or potential competitive advantage and may be released on an unrestricted basis. Class 3 is primarily used to describe technical reports, association review papers, and/or marketing and advertising literature.



**Table 2-1**  
**Types of Deliverable Documents**

### **GENERAL AND ADMINISTRATIVE**

- Design Control Document (Licensing)
- Releasable AP1000 and AP600 WCAPs and Technical Reports that apply to the implemented design
- AP1000 Documentation Guidelines and Document Numbering

### **PROJECT MANAGEMENT**

- Project Execution Plan
- Project Specific Control Procedures
- Project Schedule (includes Engineering, Procurement, QA and Construction)
- Project Change Notices (Scope, Budget, Schedule Variances)
- Official Project Correspondence
- Monthly Progress Reports (which includes project control reports, project schedule status updates, financial status, etc)

### **QUALITY ASSURANCE**

- Contractor Project Quality Plan
- Contractor QA Procedures relevant to the Agreement
- QA Data Packages including items such as :
  - Approved Non-Conformance Reports/ Dispositions
  - Radiographic/Non-Destructive Test Data
  - Non-Destructive Examination Records (NDE)
  - Heat Treatment Records
  - Material Origin Certifications
  - Approved Design Change Packages
  - Field Inspection Reports

### **ENGINEERING**

#### **Systems:**

- Releasable Calculation Notes (See Note 1)
- System Specification Documents
- Piping and Instrumentation Diagram
- Piping Isometrics
- HVAC Duct and Support Drawings
- Logic Diagrams
- Single Line Diagrams
- Three Line Diagrams
- Wiring Diagrams
- Piping Specifications
- Pipe Support Details
- Piping Analysis Reports including analyzed pipe hangers

- Releasable AP1000 Safeguards Information (See Note 1)
- Releasable AP1000 Equipment Databases (See Note 1)
- Plant Specific Heat Balance
- Releasable Set point Basis Documents (See Note 1)

#### Equipment

- Releasable Design or Equipment Specifications (See Note 1)
- Outline Drawings
- Assembly Drawings
- Wiring Diagrams
- Control Logic Drawings
- Electronic Equipment Software descriptions, versions and instructions
- Electronic Equipment Software Validation and Verification Packages (not to include source code)
- Equipment Qualification data packages
- Environmental Reports (includes conclusions and summaries but not detailed test data)
- Releasable Equipment Vendor Technical Manuals or Information Packages (See Note 1)

#### Relevant AP1000 Building Drawings and Reports, including

- Architectural Drawings
- Site Layout Drawings
- Site Infrastructure Drawings
- Fire Zone Drawings
- Radiation Zone Drawings
- Project as-built drawings
- Geotechnical Investigation Reports
- Resident Geologist reports
- General Arrangement Drawings
- Concrete Outline Drawings
- Rebar Drawings
- Seismic Analysis Reports (See Note 1)
- Containment Penetration Drawings
- Wall and Floor Penetration seal details and supporting test reports
- Embedment and Attachment Drawings
- Raceway and Raceway Support Drawings
- Cable and Conduit Lists including routing data
- Cable Termination Details
- Structural Steel Frame Drawings
- Structural Modules Sub-Assembly Drawings
- Composite lay-out drawings
- Module Drawings
- Instrument Tubing and Support Drawings
- Plant As-Designed 3D PDS Model files

#### PROCUREMENT

- Qualified & Approved Vendor/Supplier Lists (available for review, not a deliverable)
- Source Surveillance, Audits & Reports (provided for information, Not subject to Owner approval) Receipt Inspection Procedures (provided for information, Not subject to Owner approval)
- Handling, Shipping, and Storage (provided for information, Not subject to Owner approval) Equipment Specifications and related drawings
- Warehouse storage designations

## CONSTRUCTION

- Construction Execution Plan
- Site layout and utilities Plan
- Construction Specifications
- Releasable Construction Drawings (See Note 1)
- Safety Reports
- Field Purchase Orders, Receipt & Audit Reports for permanent plant equipment
- Field Deficiency Reports (NCN, FCRs, ECR, etc.)
- Welding Records (PQR, PQAR and WPS)
- Field Engineering Procedures
- System Flushing Index & Reports
- Construction Testing Reports (included in Turnover Packages)
- Equipment / System / Area Turnover Packages
- Construction Lifting, Handling & Erection (provided for information, Not subject to Owner approval) Civil Material & Property Reports
- Mechanical Property Records for Safety Related Components
- Mechanical, Civil, Electrical and I & C Installation and Inspection Procedures (provided for information, Not subject to Owner approval)
- Occupancy Inspections & Reports
- Measuring and Test Equipment program documents
- Layout/Location details for all underground facilities and 3D model as developed

## TESTING & STARTUP

- Startup Site Administrative Manual
- Pre Operational Testing Procedures/ Reports
- Structural Integrity Test Procedure
- Integrated Leak Rate Test Procedure
- Testing & Maintenance Procedures (Initial Start-up and Operations)
- Testing Acceptance Criteria
- Operating Procedures (e.g. Normal, Emergency)
- Spare Parts Lists
- Special Tools Lists
- Startup and Performance Test Reports
- Calibration Procedures & Reports

Note 1: For Documentation that is “Releasable” in accordance with WCAP 7211 or ND 10-01-00 and is applicable to the Facility.

Mandatory Spare Parts list will be inserted here as developed during the completion of the Facility.

EXHIBIT A – Table 4  
AP1000 Special Tools

This list of Special Tools may be updated through Design Finalization and Initial Testing.

<b>WBS</b>	<b>Description</b>	<b>Data Sheet</b>
<b>3.403.</b>	<b>ANNEX BUILDING ELEV 3 PROCUREMENT</b>	
U1X4033_MZ01	HMS DRILL PRESS	MZ41-Z0D-001
U1X4033_MZ02	HMS BAND SAW	MZ42-Z0D-001
U1X4033_MZ03	HMS PWR HACKSAW	MZ43-Z0D-001
U1X4033_MZ04	HMS UNIVERSAL GRINDER	MZ44-Z0D-001
U1X4033_MZ05	HMS LATHE	MZ45-Z0D-001
U1X4033_MZ06	HMS MILLING MACHINE	MZ46-Z0D-001
U1X4033_MZ07	HMS PEDESTAL GRINDER	MZ47-Z0D-001
U1X4033_MZ08	HMS HYDRAULIC PRESS	MZ48-Z0D-001
U1X4033_MZ09	HMA WELDING PLATEN	MZ49-Z0D-001
U1X4033_MZ10	HMS Valve Lapping Machine	MZ50-Z0D-001
U2X4033_MZ01	HMS DRILL PRESS	MZ41-Z0D-001
U2X4033_MZ02	HMS BAND SAW	MZ42-Z0D-001
U2X4033_MZ03	HMS PWR HACKSAW	MZ43-Z0D-001
U2X4033_MZ04	HMS UNIVERSAL GRINDER	MZ44-Z0D-001
U2X4033_MZ05	HMS LATHE	MZ45-Z0D-001
U2X4033_MZ06	HMS MILLING MACHINE	MZ46-Z0D-001
U2X4033_MZ07	HMS PEDESTAL GRINDER	MZ47-Z0D-001
U2X4033_MZ08	HMS HYDRAULIC PRESS	MZ48-Z0D-001
U2X4033_MZ09	HMA WELDING PLATEN	MZ49-Z0D-001
U2X4033_MZ10	HMS Valve Lapping Machine	MZ50-Z0D-001
<b>3.CCS.MZ3G</b>	<b>CCS HX BOLT TIGHTENER (RACHET SPANNER)</b>	
U1ACCS_MZ01A	CCS HX Bolt Tightener (Rachet Spanner) A	MZ3G-Z0D-001
U1ACCS_MZ01B	CCS HX Bolt Tightener (Rachet Spanner) B	MZ3G-Z0D-001
U1ACCS_MZ01C	CCS HX Bolt Tightener (Rachet Spanner) C	MZ3G-Z0D-001
U1ACCS_MZ01D	CCS HX Bolt Tightener (Rachet Spanner) D	MZ3G-Z0D-001
U2ACCS_MZ01A	CCS HX Bolt Tightener (Rachet Spanner) A	MZ3G-Z0D-001
U2ACCS_MZ01B	CCS HX Bolt Tightener (Rachet Spanner) B	MZ3G-Z0D-001
U2ACCS_MZ01C	CCS HX Bolt Tightener (Rachet Spanner) C	MZ3G-Z0D-001
U2ACCS_MZ01D	CCS HX Bolt Tightener (Rachet Spanner) D	MZ3G-Z0D-001
<b>3.CVS.MZ00</b>	<b>MAKEUP PUMP TOOLS</b>	
U1NCVS_MZ01	CVS Makeup Pump Thrust Collar Nut Tool	MZ3J-Z0D-001
U1NCVS_MZ02	CVS Makeup Pump Internal Casing Ins/With	MZ3K-Z0D-001
U1NCVS_MZ03	CVS Makeup Pump Thrust Collar Shaft Adj	MZ3L-Z0D-001
U1NCVS_MZ04	CVS Makeup Pump Thrust Collar Withdrawal	MZ3M-Z0D-001
U2NCVS_MZ01	CVS Makeup Pump Thrust Collar Nut Tool	MZ3J-Z0D-001
U2NCVS_MZ02	CVS Makeup Pump Internal Casing Ins/With	MZ3K-Z0D-001
U2NCVS_MZ03	CVS Makeup Pump Thrust Collar Shaft Adj	MZ3L-Z0D-001
U2NCVS_MZ04	CVS Makeup Pump Thrust Collar Withdrawal	MZ3M-Z0D-001



WBS	Description	Data Sheet
<b>3.FHS.FH50</b>	<b>NEW RCC HANDLING TOOL</b>	
U1MFHS_FH50	NEW RCC HANDLING TOOL	FH50-Z0D-001
U2MFHS_FH50	NEW RCC HANDLING TOOL	FH50-Z0D-001
<b>3.FHS.FH51</b>	<b>NEW FUEL ASSEMBLY HANDLING TOOL</b>	
U1MFHS_FH51	NEW FUEL ASSEMBLY HANDLING TOOL	FH51-Z0D-001
U2MFHS_FH51	NEW FUEL ASSEMBLY HANDLING TOOL	FH51-Z0D-001
<b>3.FHS.FH52</b>	<b>SPENT FUEL ASSEMBLY HANDLING TOOL</b>	
U1MFHS_FH52	SPENT FUEL ASSEMBLY HANDLING TOOL	FH52-Z0D-001
U2MFHS_FH52	SPENT FUEL ASSEMBLY HANDLING TOOL	FH52-Z0D-001
<b>3.FHS.FH53</b>	<b>BURNABLE POISON ROD ASSBY HANDLING</b>	
U1MFHS_FH53	BURNABLE POISON ROD ASSBY HANDLING TOOL	FH53-Z0D-001
U2MFHS_FH53	BURNABLE POISON ROD ASSBY HANDLING TOOL	FH53-Z0D-001
<b>3.FHS.FH54</b>	<b>CONTROL ROD DRIVE UNLATCH TOOL</b>	
U1MFHS_FH54	CONTROL ROD DRIVE UNLATCH TOOL	FH54-Z0D-001
U2MFHS_FH54	CONTROL ROD DRIVE UNLATCH TOOL	FH54-Z0D-001
<b>3.FHS.FH55</b>	<b>CONTROL ROD DRIVE SHAFT HANDLING TOOL</b>	
U1MFHS_FH55	CONTROL ROD DRIVE SHAFT HANDLING TOOL	FH55-Z0D-001
U2MFHS_FH55	CONTROL ROD DRIVE SHAFT HANDLING TOOL	FH55-Z0D-001
<b>3.FHS.FH56</b>	<b>IRRADIATED SAMPLE HANDLING TOOL</b>	
U1MFHS_FH56	IRRADIATED SAMPLE HANDLING TOOL	FH56-Z0D-001
U2MFHS_FH56	IRRADIATED SAMPLE HANDLING TOOL	FH56-Z0D-001
<b>3.FHS.FH57</b>	<b>ROD CONTROL CLUSTER HANDLING TOOL</b>	
U1MFHS_FH57	ROD CONTROL CLUSTER HANDLING TOOL	FH57-Z0D-001
U2MFHS_FH57	ROD CONTROL CLUSTER HANDLING TOOL	FH57-Z0D-001
<b>3.FHS.FH58</b>	<b>CRDS HANDLING TOOL</b>	
U1MFHS_FH58	CRDS HANDLING TOOL	FH58-Z0D-001
U2MFHS_FH58	CRDS HANDLING TOOL	FH58-Z0D-001
<b>3.FHS.FH59</b>	<b>IRRADIATED SAMPLE HANDLING TOOL</b>	
U1MFHS_FH59	Irradiated Sample Loading Tool	FH59-Z0D-001
U2MFHS_FH59	Irradiated Sample Loading Tool	FH59-Z0D-001
<b>3.FHS.FH60</b>	<b>SPENT FUEL HNDLNG LOAD TEST FIXTURE</b>	
U1MFHS_FH60	LOAD TEST FIXTURE INSIDE CONTAINMENT	FH60-Z0D-001
U1MFHS_FH61	Spent Fuel Hndlng Mchne Load Test Fixtur	FH60-Z0D-001
U2MFHS_FH60	LOAD TEST FIXTURE INSIDE CONTAINMENT	FH60-Z0D-001
U2MFHS_FH61	Spent Fuel Hndlng Mchne Load Test Fixtur	FH60-Z0D-001
<b>3.FHS.FS09</b>	<b>ROD CONTROL CLUSTER HANDLING TOOL</b>	
U1MFHS_FS08	Rod Control Cluster Change Fixture	FS09-Z0D-001
U2MFHS_FS08	Rod Control Cluster Change Fixture	FS09-Z0D-001
<b>3.FHS.MZ01</b>	<b>REACTOR VESSEL STUD TENSIONER SYSTEM</b>	
U1MFHS_MZ01A	Reactor Vessel Stud Tensioner A	MZ01-Z0D-001
U1MFHS_MZ01B	Reactor Vessel Stud Tensioner B	MZ01-Z0D-001
U1MFHS_MZ01C	Reactor Vessel Stud Tensioner C	MZ01-Z0D-001
U1MFHS_MZ01D	Reactor Vessel Stud Tensioner D	MZ01-Z0D-001
U1MFHS_MZ101A	RV Stud Bolt Automatic Rotation Device A	MZ1A-Z0D-001

WBS	Description	Data Sheet
U1MFHS_MZ101B	RV Stud Bolt Automatic Rotation Device B	MZ1A-Z0D-001
U1MFHS_MZ101C	RV Stud Bolt Automatic Rotation Device C	MZ1A-Z0D-001
U1MFHS_MZ101D	RV Stud Bolt Automatic Rotation Device D	MZ1A-Z0D-001
U2MFHS_MZ01A	Reactor Vessel Stud Tensioner A	MZ01-Z0D-001
U2MFHS_MZ01B	Reactor Vessel Stud Tensioner B	MZ01-Z0D-001
U2MFHS_MZ01C	Reactor Vessel Stud Tensioner C	MZ01-Z0D-001
U2MFHS_MZ01D	Reactor Vessel Stud Tensioner D	MZ01-Z0D-001
U2MFHS_MZ101A	RV Stud Bolt Automatic Rotation Device A	MZ1A-Z0D-001
U2MFHS_MZ101B	RV Stud Bolt Automatic Rotation Device B	MZ1A-Z0D-001
U2MFHS_MZ101C	RV Stud Bolt Automatic Rotation Device C	MZ1A-Z0D-001
U2MFHS_MZ101D	RV Stud Bolt Automatic Rotation Device D	MZ1A-Z0D-001
<b>3.FHS.MZ07</b>	<b>NEW FUEL VAULT INSPECTION PLATFORM</b>	
U1MFHS_MZ07	New Fuel Vault Inspection Platform	MZ07-Z0D-001
U2MFHS_MZ07	New Fuel Vault Inspection Platform	MZ07-Z0D-001
<b>3.FHS.MZ13</b>	<b>THIMBLE PLUG HANDLING TOOL</b>	
U1MFHS_MZ13	Thimble Plug Handling Tool	MZ13-Z0D-001
U2MFHS_MZ13	Thimble Plug Handling Tool	MZ13-Z0D-001
<b>3.FHS.MZ14</b>	<b>BUTTON HEIGHT MEASURING TOOL</b>	
U1MFHS_MZ14	Button Height Measurement Tool	MZ14-Z0D-001
U2MFHS_MZ14	Button Height Measurement Tool	MZ14-Z0D-001
<b>3.FHS.MZ15</b>	<b>FUEL ASSY LOADING GUIDE</b>	
U1MFHS_MZ15	Fuel Assembly Loading Guide	MZ15-Z0D-001
U2MFHS_MZ15	Fuel Assembly Loading Guide	MZ15-Z0D-001
<b>3.FHS.MZ16</b>	<b>FUEL ASSY LOADING GUIDE L-SHAPE</b>	
U1MFHS_MZ16	Fuel Assembly Loading Guide - L-Shaped	MZ16-Z0D-001
U2MFHS_MZ16	Fuel Assembly Loading Guide - L-Shaped	MZ16-Z0D-001
<b>3.FHS.MZ17</b>	<b>GENERIC REFUELING TOOLBOX</b>	
U1MFHS_MZ17	Generic Refueling Toolbox	MZ17-Z0D-001
U2MFHS_MZ17	Generic Refueling Toolbox	MZ17-Z0D-001
<b>3.FHS.MZRV.Z1B</b>	<b>RV STUD BOLT NUT BOLTING TOOLS</b>	
U1MFHS_MZ102A	RV Stud Bolt Nut Bolting Tool A	MZ1B-Z0D-001
U1MFHS_MZ102B	RV Stud Bolt Nut Bolting Tool B	MZ1B-Z0D-001
U1MFHS_MZ102C	RV Stud Bolt Nut Bolting Tool C	MZ1B-Z0D-001
U1MFHS_MZ102D	RV Stud Bolt Nut Bolting Tool D	MZ1B-Z0D-001
U2MFHS_MZ102A	RV Stud Bolt Nut Bolting Tool A	MZ1B-Z0D-001
U2MFHS_MZ102B	RV Stud Bolt Nut Bolting Tool B	MZ1B-Z0D-001
U2MFHS_MZ102C	RV Stud Bolt Nut Bolting Tool C	MZ1B-Z0D-001
U2MFHS_MZ102D	RV Stud Bolt Nut Bolting Tool D	MZ1B-Z0D-001
<b>3.FHS.MZRV.Z1C</b>	<b>RV STUD BOLT AIR BALANCERS</b>	
U1MFHS_MZ103A	RV Stud Bolt Air Balancer A	MZ1C-Z0D-001
U1MFHS_MZ103B	RV Stud Bolt Air Balancer B	MZ1C-Z0D-001
U1MFHS_MZ103C	RV Stud Bolt Air Balancer C	MZ1C-Z0D-001
U1MFHS_MZ103D	RV Stud Bolt Air Balancer D	MZ1C-Z0D-001
U2MFHS_MZ103A	RV Stud Bolt Air Balancer A	MZ1C-Z0D-001



WBS	Description	Data Sheet
U2MFHS_MZ103B	RV Stud Bolt Air Balancer B	MZ1C-Z0D-001
U2MFHS_MZ103C	RV Stud Bolt Air Balancer C	MZ1C-Z0D-001
U2MFHS_MZ103D	RV Stud Bolt Air Balancer D	MZ1C-Z0D-001
<b>3.FHS.MZRV.Z1D</b>	<b>RV STUD BOLT LIFTING WIRE TWIST RETURN J</b>	
U1MFHS_MZ104A	RV Stud Bolt Lifting Wire Twist Return J	MZ1D-Z0D-001
U1MFHS_MZ104B	RV Stud Bolt Lifting Wire Twist Return J	MZ1D-Z0D-001
U1MFHS_MZ104C	RV Stud Bolt Lifting Wire Twist Return J	MZ1D-Z0D-001
U1MFHS_MZ104D	RV Stud Bolt Lifting Wire Twist Return J	MZ1D-Z0D-001
U2MFHS_MZ104A	RV Stud Bolt Lifting Wire Twist Return J	MZ1D-Z0D-001
U2MFHS_MZ104B	RV Stud Bolt Lifting Wire Twist Return J	MZ1D-Z0D-001
U2MFHS_MZ104C	RV Stud Bolt Lifting Wire Twist Return J	MZ1D-Z0D-001
U2MFHS_MZ104D	RV Stud Bolt Lifting Wire Twist Return J	MZ1D-Z0D-001
<b>3.FHS.MZRV.Z1E</b>	<b>RV STUD BOLT WRENCHES</b>	
U1MFHS_MZ105A	RV Stud Bolt Wrench A	MZ1E-Z0D-001
U1MFHS_MZ105B	RV Stud Bolt Wrench B	MZ1E-Z0D-001
U1MFHS_MZ105C	RV Stud Bolt Wrench C	MZ1E-Z0D-001
U1MFHS_MZ105D	RV Stud Bolt Wrench D	MZ1E-Z0D-001
U2MFHS_MZ105A	RV Stud Bolt Wrench A	MZ1E-Z0D-001
U2MFHS_MZ105B	RV Stud Bolt Wrench B	MZ1E-Z0D-001
U2MFHS_MZ105C	RV Stud Bolt Wrench C	MZ1E-Z0D-001
U2MFHS_MZ105D	RV Stud Bolt Wrench D	MZ1E-Z0D-001
<b>3.FHS.MZRV.Z1F</b>	<b>RV STUD ELONG MEASUREMENT DEVICES</b>	
U1MFHS_MZ106	RV Stud Bolt Elongation Measurement Device	MZ1F-Z0D-001
U2MFHS_MZ106	RV Stud Bolt Elongation Measurement Device	MZ1F-Z0D-001
<b>3.FHS.MZRV.Z1H</b>	<b>RV STUD HOLE PLUG HANDLING TOOLS</b>	
U1MFHS_MZ200	RV Stud Hole Plug Handling Tool	MZ1H-Z0D-001
U2MFHS_MZ200	RV Stud Hole Plug Handling Tool	MZ1H-Z0D-001
<b>3.FHS.MZRV.Z1J</b>	<b>RV STUD BOLT TENSIONER ELECT HOISTS</b>	
U1MFHS_MZ111A	RV Stud Bolt Tensioner Electric Hoist A	MZ1J-Z0D-001
U1MFHS_MZ111B	RV Stud Bolt Tensioner Electric Hoist B	MZ1J-Z0D-001
U1MFHS_MZ111C	RV Stud Bolt Tensioner Electric Hoist C	MZ1J-Z0D-001
U1MFHS_MZ111D	RV Stud Bolt Tensioner Electric Hoist D	MZ1J-Z0D-001
U2MFHS_MZ111A	RV Stud Bolt Tensioner Electric Hoist A	MZ1J-Z0D-001
U2MFHS_MZ111B	RV Stud Bolt Tensioner Electric Hoist B	MZ1J-Z0D-001
U2MFHS_MZ111C	RV Stud Bolt Tensioner Electric Hoist C	MZ1J-Z0D-001
U2MFHS_MZ111D	RV Stud Bolt Tensioner Electric Hoist D	MZ1J-Z0D-001
<b>3.FHS.MZRV.Z1K</b>	<b>RV STUD NUT &amp; WASHER CONVEY RACKS</b>	
U1MFHS_MZ121	RV Stud, Nut, & Washer Conveyance Rack	MZ1K-Z0D-001
U2MFHS_MZ121	RV Stud, Nut, & Washer Conveyance Rack	MZ1K-Z0D-001
<b>3.FHS.MZRV.Z1L</b>	<b>RV STUD BOTTOM &amp; TOP PLUG SPANNER</b>	
U1MFHS_MZ131	RV Stud Bottom Plug and Top Plug Spanner	MZ1L-Z0D-001
U2MFHS_MZ131	RV Stud Bottom Plug and Top Plug Spanner	MZ1L-Z0D-001
<b>3.FWS.MZ2A</b>	<b>STARTUP FDWTR PUMP SPECIAL TOOLS</b>	
U1PFWS_MZ01	SU FW Pump Special Spanners & Hex Bar Wr	MZ2A-Z0D-001

<b>WBS</b>	<b>Description</b>	<b>Data Sheet</b>
U2PFWS_MZ01	SU FW Pump Special Spanners & Hex Bar Wr	MZ2A-Z0D-001
<b>3.IDS.DB01.HWE</b>	<b>CLASS IE BATTERY HARDWARE</b>	
U1EIDSA_DY001	125V BATTERY SPECIAL TOOLS	DB01-Z0D-001T
U2EIDSA_DY001	125V BATTERY SPECIAL TOOLS	DB01-Z0D-001T
<b>3.MHS</b>	<b>MECHANICAL HANDLING SYS PROCUREMENT</b>	
U1MMHS_MH18	Corridor Hydraulic Lift Platform	MH18-Z0D-001
U1MMHS_MH19A	Shield Bldg Annulus Personal Basket North	MH19-Z0D-001
U1MMHS_MH19B	Shield Bldg Annulus Personal Basket South	MH19-Z0D-001
U1MMHS_MHEXTRA-1	Annex Building Lift Platform	MH18-Z0D-001
U1MMHS_MHEXTRA-3	Aux Building Lift Platform	MH18-Z0D-001
U2MMHS_MH18	Corridor Hydraulic Lift Platform	MH18-Z0D-001
U2MMHS_MH19A	Shield Bldg Annulus Personal Basket North	MH19-Z0D-001
U2MMHS_MH19B	Shield Bldg Annulus Personal Basket South	MH19-Z0D-001
U2MMHS_MHEXTRA-1	Annex Building Lift Platform	MH18-Z0D-001
U2MMHS_MHEXTRA-3	Aux Building Lift Platform	MH18-Z0D-001
<b>3.RCS.MH17.HWE</b>	<b>RCP/MOTOR MAINT CART HARDWARE</b>	
UCRRCS_MH01	Reactor Coolant Pump/Motor Maintenance C	MH17-Z0D-001
<b>3.RCS.MZ19</b>	<b>PORTABLE RCS VENT VACUUM SKID</b>	
U1RRCS_MZ01	Portable RCS Vent Vacuum Skid	MZ19-Z0D-001
U2RRCS_MZ01	Portable RCS Vent Vacuum Skid	MZ19-Z0D-001
<b>3.RCS.MZ3A</b>	<b>MANHOLE HANDLING EQUIPMENT</b>	
U1RRCS_MZ30	SG Manhole Handling Equipment	MZ3A-Z0D-001
U2RRCS_MZ30	SG Manhole Handling Equipment	MZ3A-Z0D-001
<b>3.RCS.MZ3B</b>	<b>MANHOLE FLANGE-FACE PROTECTION PLATES</b>	
U1RRCS_MZ31A	SG Manhole Flange-Face Protection Plate	MZ3B-Z0D-001
U1RRCS_MZ31B	SG Manhole Flange-Face Protection Plate	MZ3B-Z0D-001
U2RRCS_MZ31A	SG Manhole Flange-Face Protection Plate	MZ3B-Z0D-001
U2RRCS_MZ31B	SG Manhole Flange-Face Protection Plate	MZ3B-Z0D-001
<b>3.RCS.MZ3C</b>	<b>MANHOLE DUCT FLANGES</b>	
U1RRCS_MZ32A	SG Manhole Duct Flange A	MZ3C-Z0D-001
U1RRCS_MZ32B	SG Manhole Duct Flange B	MZ3C-Z0D-001
U1RRCS_MZ32C	SG Manhole Duct Flange C	MZ3C-Z0D-001
U1RRCS_MZ32D	SG Manhole Duct Flange D	MZ3C-Z0D-001
U2RRCS_MZ32A	SG Manhole Duct Flange A	MZ3C-Z0D-001
U2RRCS_MZ32B	SG Manhole Duct Flange B	MZ3C-Z0D-001
U2RRCS_MZ32C	SG Manhole Duct Flange C	MZ3C-Z0D-001
U2RRCS_MZ32D	SG Manhole Duct Flange D	MZ3C-Z0D-001
<b>3.RCS.MZ3D</b>	<b>MANHOLE TEMPORARY LIDS</b>	
U1RRCS_MZ33A	SG Manhole Temporary Lid A	MZ3D-Z0D-001
U1RRCS_MZ33B	SG Manhole Temporary Lid B	MZ3D-Z0D-001

<b>WBS</b>	<b>Description</b>	<b>Data Sheet</b>
U1RRCS_MZ33C	SG Manhole Temporary Lid C	MZ3D-Z0D-001
U1RRCS_MZ33D	SG Manhole Temporary Lid D	MZ3D-Z0D-001
U2RRCS_MZ33A	SG Manhole Temporary Lid A	MZ3D-Z0D-001
U2RRCS_MZ33B	SG Manhole Temporary Lid B	MZ3D-Z0D-001
U2RRCS_MZ33C	SG Manhole Temporary Lid C	MZ3D-Z0D-001
U2RRCS_MZ33D	SG Manhole Temporary Lid D	MZ3D-Z0D-001
<b>3.RCS.MZ3E</b>	<b>DRAIN PLUGS</b>	
U1RRCS_MZ34	SG Drain Plug	MZ3E-Z0D-001
U1RRCS_MZ35	SG Manhole Stud Bolt Tensioner	MZ3F-Z0D-001
U2RRCS_MZ34	SG Drain Plug	MZ3E-Z0D-001
U2RRCS_MZ35	SG Manhole Stud Bolt Tensioner	MZ3F-Z0D-001
<b>3.RNS.MZ3N</b>	<b>RNS PUMP IMPELLER DISASSEM TOOL</b>	
U1NRNS_MZ01	RNS Pump Impeller Disassembly/Mounting J	MZ3N-Z0D-001
U2NRNS_MZ01	RNS Pump Impeller Disassembly/Mounting J	MZ3N-Z0D-001
<b>3.RNS.MZ3Q</b>	<b>RNS PUMP DISASSEMBLY/MOUNTING TABLE</b>	
U1NRNS_MZ11	RNS Pump Disassembly/Mounting Table	MZ3Q-Z0D-001
U2NRNS_MZ11	RNS Pump Disassembly/Mounting Table	MZ3Q-Z0D-001
<b>3.RXS.MY90.HWE</b>	<b>IRRAD TUBE PLUG SEAT JACK HDWE</b>	
U1RRXS_MYY01	IRRAD TUBE PLUG SEAT JACK	MY90-Z0D-001
U2RRXS_MYY01	IRRAD TUBE PLUG SEAT JACK	MY90-Z0D-001
<b>3.SFS.MZ3H</b>	<b>SPENT FUEL POOL COOLING PUMP TOOLS</b>	
U1NSFS_MZ01A	SFS HX Bolt Tightener (Ratchet Spanner) A	MZ3H-Z0D-001
U1NSFS_MZ01B	SFS HX Bolt Tightener (Ratchet Spanner) B	MZ3H-Z0D-001
U1NSFS_MZ01C	SFS HX Bolt Tightener (Ratchet Spanner) C	MZ3H-Z0D-001
U1NSFS_MZ01D	SFS HX Bolt Tightener (Ratchet Spanner) D	MZ3H-Z0D-001
U2NSFS_MZ01A	SFS HX Bolt Tightener (Ratchet Spanner) A	MZ3H-Z0D-001
U2NSFS_MZ01B	SFS HX Bolt Tightener (Ratchet Spanner) B	MZ3H-Z0D-001
U2NSFS_MZ01C	SFS HX Bolt Tightener (Ratchet Spanner) C	MZ3H-Z0D-001
U2NSFS_MZ01D	SFS HX Bolt Tightener (Ratchet Spanner) D	MZ3H-Z0D-001
<b>3.SWS.MZ3P</b>	<b>SERVICE WATER PUMP TOOLS</b>	
U1ASWS_MZ01	SWS Pump Packing Withdrawal Tool	MZ3P-Z0D-001
U2ASWS_MZ01	SWS Pump Packing Withdrawal Tool	MZ3P-Z0D-001
<b>3.WSS.MH60</b>	<b>FILTER TRANSFER CASKS</b>	
U1MMHS_MH60	Filter Transfer Cask	MH60-Z0D-001
U1WWSS_MR01	HA FILTER TRANSFER CASK	MH60-Z0D-001
U1WWSS_MR02	MA FILTER TRANSFER CASK	MH60-Z0D-001
U1WWSS_MSCART	MA FILTER TRANSFER CART	MH60-Z0D-002
U1WWSS_MZ02	MA FILTER CASK TENSION TOOL	MH60-Z0D-004
U1WWSS_MZ04	MA FILTER CASK SHIELD PLUG ROLLER SUPPOR	MH60-Z0D-006
U1WWSS_MZ05	MA FILTER CASK SHIELD PLUG SUPPORT STAND	MH60-Z0D-007
U2MMHS_MH60	Filter Transfer Cask	MH60-Z0D-001
U2WWSS_MR01	HA FILTER TRANSFER CASK	MH60-Z0D-001
U2WWSS_MR02	MA FILTER TRANSFER CASK	MH60-Z0D-001
U2WWSS_MSCART	MA FILTER TRANSFER CART	MH60-Z0D-001



WBS	Description	Data Sheet
U2WWSS_MZ01	MA FILTER CASK TEMP STAND	MH60-Z0D-001
U2WWSS_MZ02	MA FILTER CASK TENSION TOOL	MH60-Z0D-001
U2WWSS_MZ03	MA FILTER CASK FLOOR SUPPORT	MH60-Z0D-001

EXHIBIT A Figures

Figure 1. Site Plan - Interface with Existing Site Facilities and Systems

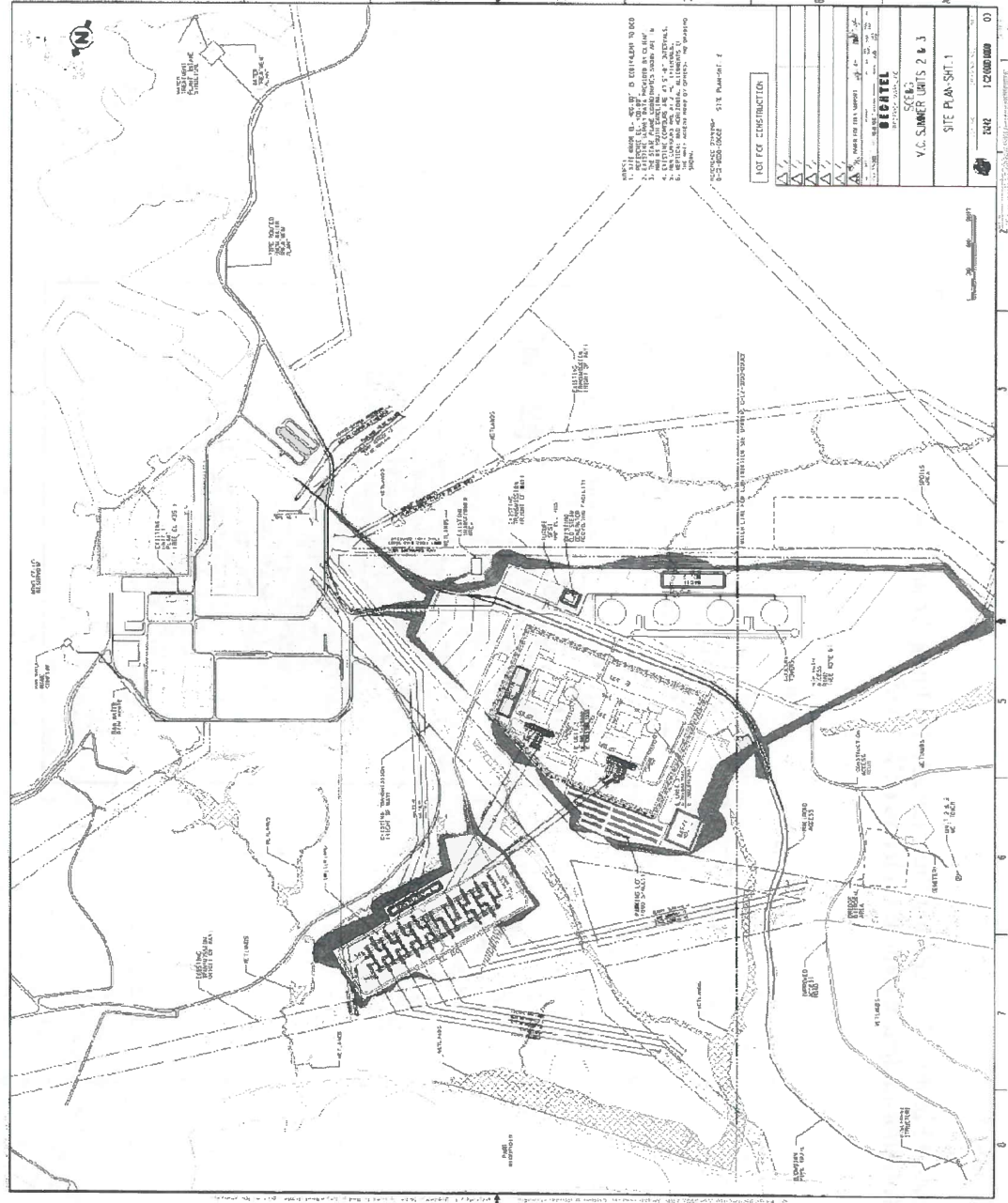


EXHIBIT A Figures

Figure 1.2-2. DCD Figure 1.2-2 AP1000 Site plan and Building Arrangement Security-Related Information, Withhold Under 10 CFR 2.390d

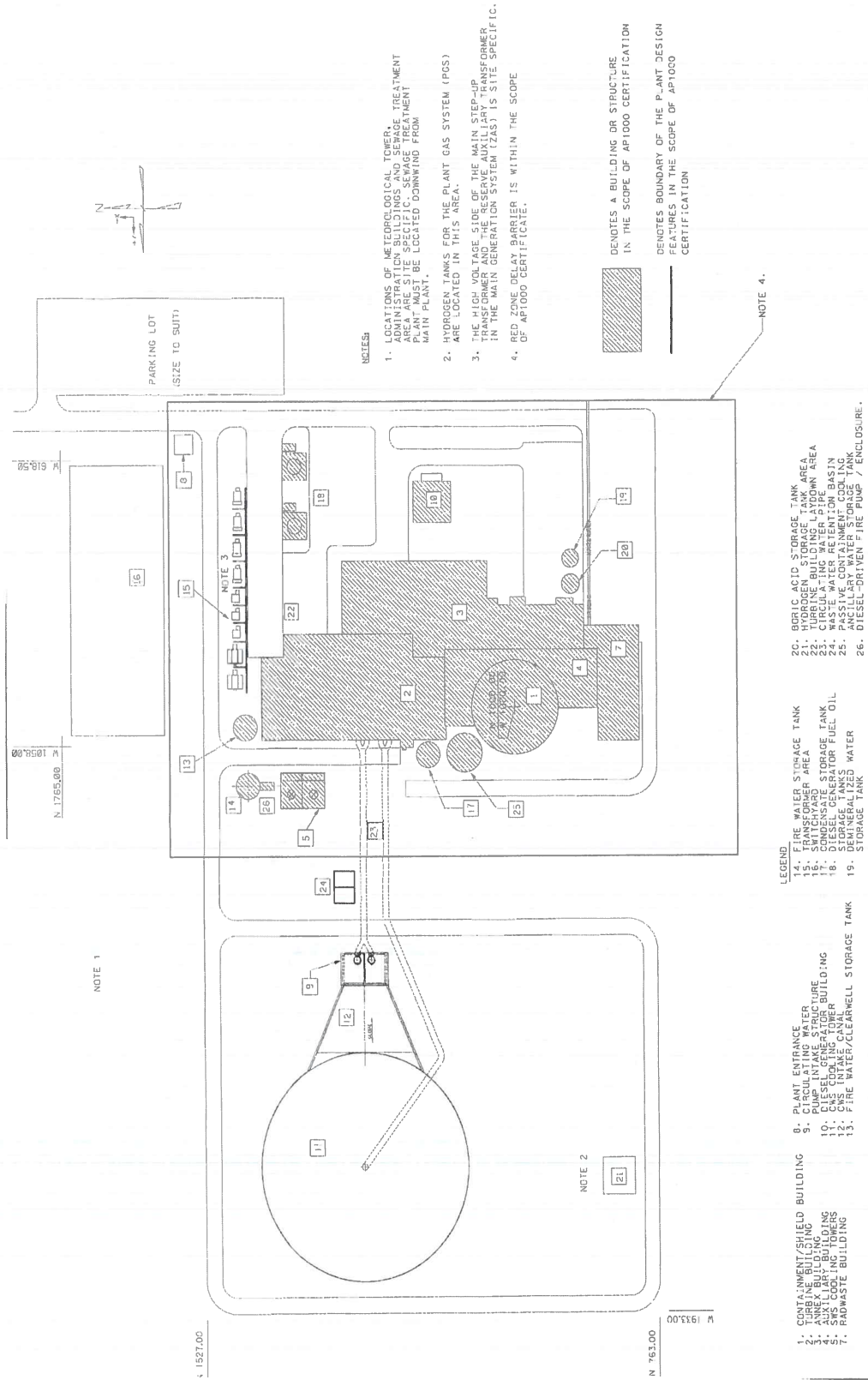
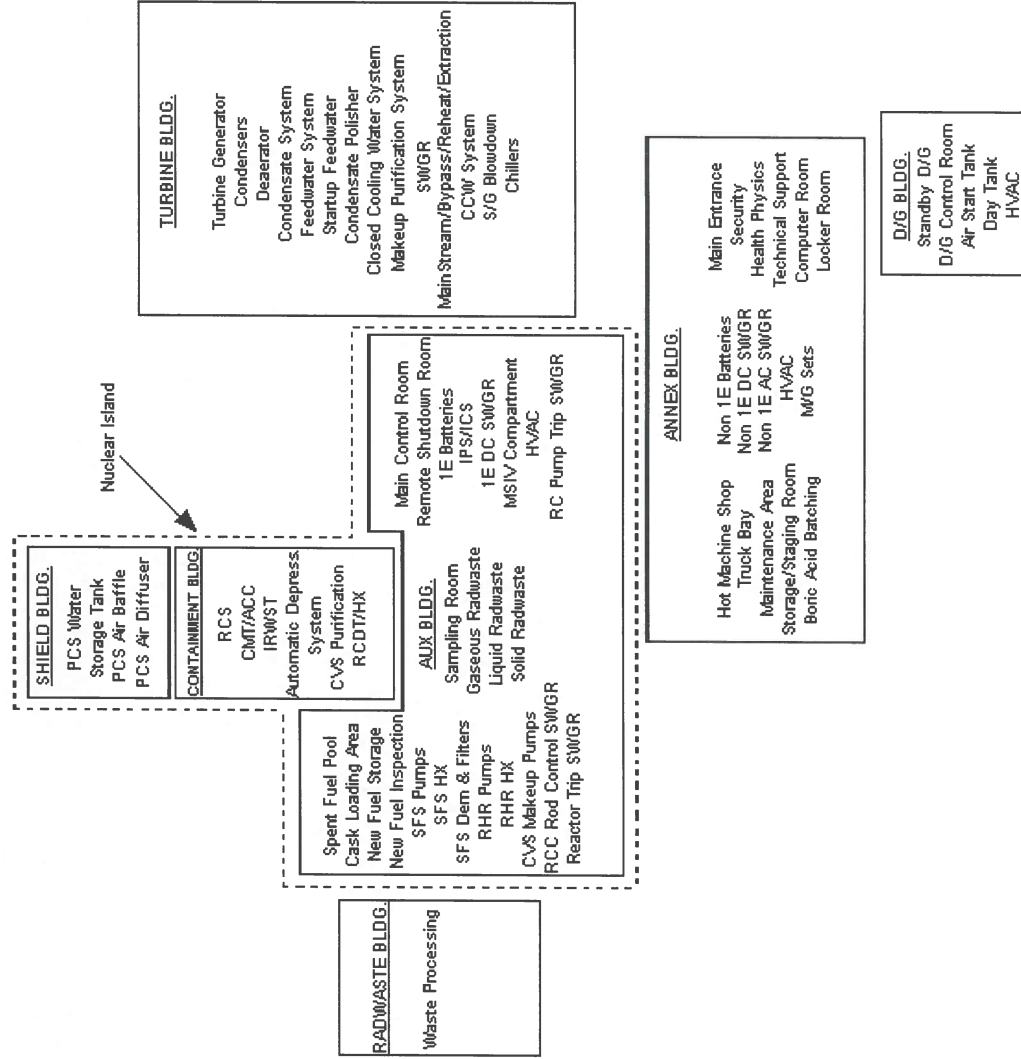


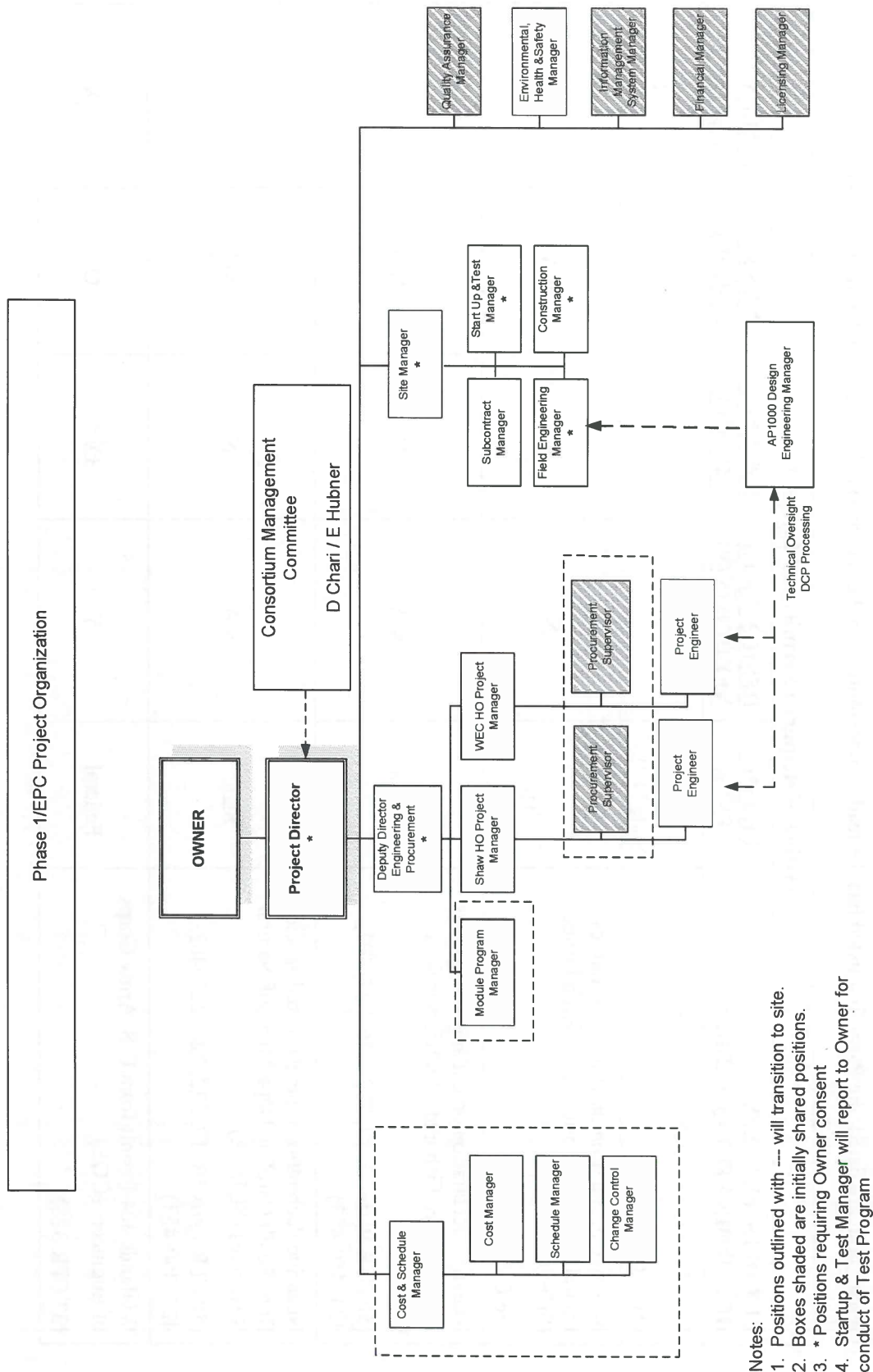
EXHIBIT A Figures

DCD Figure 1.2-3, Functional Allocation of System Components Contained in Buildings



**EXHIBIT B**  
**Contractor's Organization**





### EXHIBIT C Permits

X = CONTRACTOR RESPONSIBILITY

O = OWNER RESPONSIBILITY

(Where both are listed, the Party first listed has the lead responsibility and the second one has the responsibility to support)

Listing of Required Permits and Licenses					
PERMITS, PLANS, & DETERMINATIONS NEEDED	PERMIT TYPE	DESIGN DATA NEEDED (Y/N)	DEVELOP PERMIT	OWNER/ HOLDER	IMPLEMENT PERMIT
Well Permit (Groundwater Wells) (SC R61-71)	State DHEC	Y	X	X	X
Negative declaration on cultural resources from the State Historic Preservation Officer (SHPO) (36 CFR Part 800)	State	N	N/A	N/A	N/A
Negative declaration on endangered species from the U.S. Fish and Wildlife Services (USFWS) (50 CFR Parts 13, 17, 222, 226, 227, 402, 424, 450-453)	Federal	N/A	N/A	N/A	N/A
Negative declaration on endangered species from South Carolina Department of Natural Resources (SCDNR) (50 CFR Parts 13, 17, 222, 226, 227, 402, 424, 450-453)	State	N/A	N/A	N/A	N/A
Wetlands 404 Permit from U.S. Army Corps of Engineers (COE) (33 CFR 328)	Federal	Y	O/X	O	X

**EXHIBIT C**  
**Permits**

Listing of Required Permits and Licenses					
PERMITS, PLANS, & DETERMINATIONS NEEDED	PERMIT TYPE	DESIGN DATA NEEDED (Y/N)	DEVELOP PERMIT	OWNER/HOLDER	IMPLEMENT PERMIT
Floodplain Assessment (E.O. 11988)	Federal	N/A	N/A	N/A	N/A
Federal Aviation Administration § 77.15 Permit (14 CFR 77)	Federal	Y	X	X	X
PERMITS, PLANS, & DETERMINATIONS NEEDED FOR ANY CONSTRUCTION					
Air Quality Protection Permitting					
DOE Spent Fuel Agreement/Contract (NWPA 1982)	Federal	N	O	O	O
Bureau of Air Quality Construction Permit (May include contractor small sources) (SC R. 61-62)	State DHEC	Y	O/X	O	X
Concrete Batch Plant BAQ Permit (Form IIF) (May be part of BAQ Construction Permit) (SC R. 61-62)	State DHEC	Y	O/X	O	X
Surface Water Protection Permitting					
Dam Repair/Alterations Permit (SC R. 72-1 through R. 72-9)	State DHEC	N/A	N/A	N/A	N/A
Water Use Permit (Water withdrawal from Broad River)	Federal	N/A	N/A	N/A	N/A



**EXHIBIT C**  
**Permits**

Listing of Required Permits and Licenses					
<b>PERMITS, PLANS, &amp; DETERMINATIONS NEEDED</b>	<b><u>PERMIT TYPE</u></b>	<b><u>DESIGN DATA NEEDED (Y/N)</u></b>	<b><u>DEVELOP PERMIT</u></b>	<b><u>OWNER/ HOLDER</u></b>	<b><u>IMPLEMENT PERMIT</u></b>
NPDES Permit to Construct Sanitary Wastewater Wastewater Treatment Intake Structure (33 CFR 322) Discharge structure  (SC R. 61-9)	State DHEC	Y	O/X	O	X
NPDES Permit - Concrete Batch Plant (SC R. 61-9)	State DHEC	Y	O/X	O	X
NPDES Stormwater Permit Construction Storm Water Pollution Prevention Plan (SWPPP) Erosion Control Plan Grading Permit Notice of Intent (NOI) (SC R. 61-9)	State DHEC	Y	O/X	O	X
CZMA Approval / Waiver	State/Federal 1	Y	O	O	O
Facility Response Plan for Oil Spills (40 CFR 112, SC R. 61-9 BMP)	State	N/A	N/A	N/A	N/A





### EXHIBIT C

#### Permits

Listing of Required Permits and Licenses						
PERMITS, PLANS, & DETERMINATIONS NEEDED	PERMIT TYPE	DESIGN DATA NEEDED (Y/N)	DEVELOP PERMIT	OWNER/HOLDER	IMPLEMENT PERMIT	
Parr/FFPS and Railroad Easements	SCE&G	Y	O/X	O	O	
SC Business License	State	N/A	N/A	N/A	N/A	
Release from "Land Application" status for areas in and around L50.	State DHEC	N/A	N/A	N/A	N/A	
Engineering Report [International Building Codes, Sec 1704] (Fairfield Co Building Safety)	County	Y	X	X	X	
Building Permit [Offices & warehouses only] (Fairfield Co Building Safety)	County	Y	X	X	X	
DOT Highway Encroachment/Modifications	State DOT	N/A	N/A	N/A	N/A	
Blasting Permit	State	N	X	X	X	
Certificate of Public Convenience and Necessity (SC Public Service Commission)	State	Y	O/X	O	O	
PERMITS, PLANS, & DETERMINATIONS NEEDED FOR OPERATION						
Air Quality Protection Permitting						
Title V Air Operating Permit or Conditional Major Source Permit (SC R. 61-62)	State DHEC	Y	O/X	O	O	

### EXHIBIT C Permits

Listing of Required Permits and Licenses						
PERMITS, PLANS, & DETERMINATIONS NEEDED	<u>PERMIT TYPE</u>	<u>DESIGN DATA NEEDED (Y/N)</u>	<u>DEVELOP PERMIT</u>	<u>OWNER/ HOLDER</u>	<u>IMPLEMENT PERMIT</u>	
Surface Water Protection Permitting						
NPDES Permit						
Sanitary Wastewater Discharge Wastewater Treatment Discharge Cooling Tower Blowdown Discharge (SC R. 61-9)	State DHEC	Y	O/X	O	O	
Operations SPCC Plan (40 CFR 112, SC R. 61-9)	State	Y	N/A	N/A	N/A	
NPDES Operations Stormwater Permit Operations Storm Water Pollution Prevention Plan (SWPPP) (SC R. 61-9)	State DHEC	Y	O/X	O	O	
Groundwater/Drinking Water Protection Permitting						
Diesel Fuel Storage Tank (UST) Operating Permit (Potentially not required for above ground tanks) (SC R. 61-92)	State DHEC	N/A	N/A	N/A	N/A	

### EXHIBIT C Permits

Listing of Required Permits and Licenses					
PERMITS, PLANS, & DETERMINATIONS NEEDED	PERMIT TYPE	DESIGN DATA NEEDED (Y/N)	DEVELOP PERMIT	OWNER/ HOLDER	IMPLEMENT PERMIT
Waste Management Permitting					
Process Waste Disposal/RCRA ID Number (SC R. 61-79, and SC R. 61-104)	State	Y	O/X	O	O
Pollution Prevention and Waste Minimization Plan (SC R. 61-79, and SC R. 61-104)	State	Y	O/X	O	O
Radioactive Materials/Transport License (SC R 61-63 and R 61-83)	State DHEC	N	O	O	O
SNM License 10 CFR 30, 40 and 70	Federal NRC	N	O	O	O
Certificate to Transport Hazardous Materials (40 CFR and SC R 61-79)	Federal/ DOT	N	O	O	O

**EXHIBIT D**  
**AP1000 –Project Execution Plan Processes**

Capitalized terms used herein and not otherwise defined herein have the meanings assigned to such terms in the Agreement to which this Exhibit D is appended.

The Project Execution Plan will incorporate the following processes. The Parties may mutually agree to modify the title or description of such processes or add additional processes to the Project Execution Plan.

<b><u>Process Title</u></b>	<b><u>Process Description</u></b>
<b>Project Management Plan</b>	Describes the project organizational structure, work scope and division of responsibilities, top level project schedule and list of key deliverables. Outlines the responsibility assignments, top level principles, strategies, systems and processes employed in the project. This process will address the Limited Notice(s) to Proceed issued by Owner to authorize the Phase 1 Work. This process will also address Project Schedule adjustments, including those related to first concrete pouring and COL approval.
<b>Risk Management</b>	Defines process to identify, assess, categorize manage and track risk items. It includes process to report status of risk mitigation and track to completion.
<b>Schedule</b>	Defines the process of creating and controlling the Project Schedule with an agreed integrated work breakdown structure for the identification of activity (IDs) with appropriate links between design finalization, procurement and construction.
<b>Supply Chain/Procurement Plan</b>	Describes processes, procedures, roles and responsibilities for the demand plan, supply plan, risk management and procurement/logistics processes for the purchase of goods and services. Provides a coordinated strategy to ensure on-time delivery of cost effective, quality products and services.
<b>Construction Execution Plan</b>	Establish the construction philosophy and planned approach for the AP1000 Standard Plant, such that execution of the construction portion of the Work will be completed in accordance with the requirements of the Agreement and Subcontracts. This plan defines the scope of the construction portion of the Work, Contractor's project management team's organization, and how the construction portion of the Work will be managed.



<b><u>Process Title</u></b>	<b><u>Process Description</u></b>
<b>Module Plan</b>	Document the process and infrastructure required for completion of module planning, design, procurement, fabrication and assembly, testing, delivery, storage, Site assembly, outfitting and installation to support construction of the AP1000 Nuclear Power Plant (the "AP1000"). Establishes process for vendor selection and lists selected fabricators for each module. Lists the structural/mechanical modules and piping assemblies and identifies Contractor's or Subcontractors' organizations responsible for design/supply of each module.
<b>Quality Assurance Plan</b>	Description of requirements of Quality Assurance Program and how the Westinghouse Quality Management System and Shaw Stone & Webster Quality Assurance Program are implemented and identifies supplemental procedures that will be required.
<b>Process Improvement/Lessons Learned</b>	Process to identify and evaluate lessons learned from AP1000 and other projects and maintain them in a centralized system. Describes how to submit, evaluate and distribute lessons learned and recommend corrective actions.
<b>Project Engineering Plan</b>	An upper level program document that provides the description and guidance for executing the responsibilities, functions and activities of Contractor's engineering organizations for AP1000 projects. Summarizes the interfaces, interactions and relationships with the rest of the AP1000 project organization. It does not contain detailed program descriptions or implementing procedures; rather, it references the detailed program descriptions and their respective implementing procedures.
<b>Project Completion and Closeout</b>	Identifies activities required to document completion of the Work. Identifies documentation required to document that a Unit has been delivered, constructed and tested in accordance with the terms of the Agreement and the deliverables have been provided and accepted by Owner, and all contract related commercial issues have been resolved.

<b><u>Process Title</u></b>	<b><u>Process Description</u></b>
<b>Project Controls Plan</b>	Describes the measurement, monitoring and forecasting methods for the change control process for schedule and cost with necessary approval and reporting. Describes the project controls to be utilized and describes the project controls organization and responsibilities. The cost controls area will also define the processes, procedures, roles, and responsibilities for how invoices and adjustments to invoices (i.e. escalation, contingency) will be submitted to Owner and how costs will be reported to Owner to fulfill FERC and South Carolina Public Service Commission requirements.
<b>System Turnover</b>	Establishes the requirements and responsibilities for the Turnover process from construction to startup. Define the scope and verification of Work completion for Contractor Turnover of a Unit to the Owner and its Operator.
<b>Start-up and Commissioning</b>	Describes test activities associated with Preoperational Test and Start-up Test programs. Defines test sequencing procedures and Level 3 test schedules. Defines roles and responsibilities, Site staff assumptions, and number of test personnel to achieve the test program. Lists Preoperational Test and Start-up Test ITAACs. Addresses interface with Turnover.
<b>Communication Plan</b>	Provide clear and effective formal Contractor communications, including information that affects schedule, engineering, construction, quality, procurement or contractual matters between Contractor and Owner, Subcontractors, and relevant third parties. Provide project documentation distribution matrix to Owner.
<b>Contract/Subcontract Management</b>	Describe how the contractual and financial requirements will be managed and executed between Owner and Contractor from execution of the Agreement to Final Completion. Includes the management of the agreement between the Consortium Members. Describes philosophy of flow down obligations and integration from the Consortium Members to their Subcontracts as specifically related to the Agreement.
<b>Regulatory/Licensing Management</b>	Identifies requirements and describes regulatory submittals and interactions with the NRC during each phase, pre-COLA application, COL support, ITAAC in planning, NRC oversight of procurement, fabrication and construction.

**Process Title****Process Description****AP1000  
Configuration  
Management**

Documents adherence to 10 CFR Part 50, Appendix B in design and configuration control as the Work evolves from engineering through procurement, construction and Turnover. Documents general inter-organization processes for design and configuration management and control.

**AP1000  
Standardization  
Management**

Outline the reasons and benefits of domestic and international design standardization of the AP1000 and establish limits for standardization.

**Resource Staffing  
Management**

Process to manage the project resources with emphasis on staffing. Necessary instructions to resource with competent individuals with the necessary training and qualifications to deliver a quality product. Controls will be specified to check individual qualifications and provide supplemental training for site activities.

**Information  
Management System**

Develop central database and "air traffic control" system using Smart Plant Foundation with links to the sources of information. Identify/document processes for populating, maintaining, delivering and accessing information. Define unique plant information technology infrastructure requirements needed for information management system to function.

## Exhibit E Project Schedule

The Project Schedule (and any revisions thereto) is the Primavera schedule.

The Project Schedule for construction of the Standard Plant is provided on the Attachment based on the Full Notice to Proceed being received no later than fifty-four (54) months prior to the First Unit's Guaranteed Substantial Completion Date of April 1, 2016, at which time the first safety-related concrete (i.e., Nuclear Island Basemat) pouring must commence for the First Unit and the Second Unit's Guaranteed Substantial Completion Date of January 1, 2019.

No later than September 30, 2008, Contractor will prepare and deliver to Owner a Site specific Project Schedule that will incorporate the Site specific Work with a Site specific construction schedule which will take into consideration the NRC's schedule for its review and approval of the Owner's COLA. Both Parties will work together in this Project Schedule change development to try to protect the April 1, 2016 Unit 2 Guaranteed Substantial Completion Date, at minimal cost impact to Owner.

Contractor shall perform the Work under this Agreement in accordance with the Project Schedule. The Project Schedule shall be updated throughout the Contractor's performance of the Work as necessary to meet the following Milestones, as adjusted based on the Site specific Project Schedule described above.

### Critical Milestones

COL Application Approved (L1000GW105) <sup>1,2</sup>	TBD
Start First Unit Concrete Nuclear Island Basemat (L2NIPOURSM)	10/1/2011
Start Second Unit Concrete Nuclear Island Basemat (L2NIPOURSM)	8/1/2013
First Unit Reactor Vessel Received on Site (C1223MV00)	5/15/2013
Set First Unit Containment Vessel Bottom Head on Basemat Legs (C1103MV501)	12/27/2013
First Unit Fuel Load (VC Sum U2 S0RX9FT001 )	10/2/2015
First Unit Substantial Completion ( S0RX9FT057 )	4/1/2016
Second Unit Fuel Load (VC Sum U3 S0RX9FT001)	6/30/2018
Second Unit Substantial Completion (S0RX9FT067 )	1/1/2019

#### Notes:

1. COL Issuance and Full Notice to Proceed are required to support the Critical Milestones.
2. Project Schedule identifiers provided in parenthesis. The identifier numbering (but not the activity) may change in the schedule incorporating the site specific work.



SCEG " VCSummer Unit 2" Construction Last Updated from		Level 2		23-Apr-08 16:07	
Activity ID	Activity Name	Early Start	Early Finish	Quarter	
SCE&G " VCSummer Unit 2" Construction Last Updated from Standard Plant Fil...		01-Sep-10	04-Apr-16	-5 -4 -3 -2 -1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	
Module/Assembly Area					
L2CA20ASSM	CA20 ASSEMBLY START MILESTONE	15-Oct-10	29-Mar-12	◆ CA20 ASSEMBLY START MILESTONE	
L2CA01ASSM	START- SITE ASSEMBLY OF CA01 MODULE	15-Oct-10		◆ START- SITE ASSEMBLY OF CA01 MODULE	
L2CA20ASFM	CA20 ASSEMBLY FINISH MILESTONE	04-Oct-11	18-Nov-11	◆ CA20 ASSEMBLY FINISH MILESTONE	
L2CTCA01FM	FINISH- SITE ASSEMBLY OF CA01	29-Mar-12		◆ FINISH- SITE ASSEMBLY OF CA01	
NUCLEAR ISLAND					
L2NIPOURSM20	Install Nuclear Island Mud Mat, Rebar & Embeds	01-Jul-11	03-Oct-11	■ Install Nuclear Island Mud Mat, Rebar & Embeds	
L2NIPOURSM	FIRST CONCRETE POUR NI BASEMENT	01-Jul-11	30-Sep-11	◆ FIRST CONCRETE POUR NI BASEMENT	
CONTAINMENT					
L2CTMACA01	SITE ASSEMBLY OF CA01	03-Oct-11	02-Apr-15	■ SITE ASSEMBLY OF CA01	
L2CTCA01SM	BEGIN INSTALLATION OF CA01 MODULE	04-Oct-11	29-Mar-12	◆ BEGIN INSTALLATION OF CA01 MODULE	
L2CT-RVSM	BEGIN ASSEMBLY OF INTEGRATED HEAD PKG/RPV HEAD	07-May-12		◆ BEGIN ASSEMBLY OF INTEGRATED HEAD PKG/RPV HEAD	
L2CTMPZRSM	BEGIN INSTALLATION OF PRESSURIZER	06-Mar-13		◆ BEGIN INSTALLATION OF PRESSURIZER	
L2CTM-RV1	FITUP & INSTALLATION OF RV INTERNALS	06-May-13		■ FITUP & INSTALLATION OF RV INTERNALS	
L2CTMRVHSM	SET REACTOR VESSEL HEAD PACKAGE ON STAND	05-Mar-14	02-Oct-14	◆ SET REACTOR VESSEL HEAD PACKAGE ON STAND	
L2CRANEDSM	POLAR CRANE DELIVERY	01-Aug-13		◆ POLAR CRANE DELIVERY	
L2CRANE111	SET POLAR CRANE	17-Sep-13		■ SET POLAR CRANE	
L2RPVINSSM	BEGIN INSTALLATION OF REACTOR VESSEL	03-Apr-14	04-Jul-14	◆ BEGIN INSTALLATION OF REACTOR VESSEL	
L2CTMSGSM	BEGIN INSTALLATION OF STEAM GENERATORS	13-May-13		◆ BEGIN INSTALLATION OF STEAM GENERATORS	
L2CTMRBASM	START- CONTAINMENT BUILDING REBAR	02-Sep-13		◆ START- CONTAINMENT BUILDING REBAR	
L2CTMRBAPM	FINISH- CONTAINMENT BUILDING REBAR	03-Oct-11		◆ FINISH- CONTAINMENT BUILDING REBAR	
L2CTMRBABA	CONTAINMENT BUILDING REBAR	03-Oct-11	01-Jul-13	▨ CONTAINMENT BUILDING REBAR	
L2CTBTOTHEAD	BEGIN INSTALLATION OF (CV) BOTTOM HEAD	30-Nov-11		◆ BEGIN INSTALLATION OF (CV) BOTTOM HEAD	
L2CTRCPIESM	BEGIN INSTALLATION OF RC PIPE	30-Nov-11		◆ BEGIN INSTALLATION OF RC PIPE	
L2CTRING2SM	BEGIN INSTALLATION OF RING # 2	06-Nov-12		◆ BEGIN INSTALLATION OF RING # 2	
L2CTRING3SM	BEGIN INSTALLATION OF RING # 3	16-Nov-12		◆ BEGIN INSTALLATION OF RING # 3	
L2CTRCMPSPM	BEGIN INSTALLATION OF RC PUMP	06-May-13		◆ BEGIN INSTALLATION OF RC PUMP	
L2CTTOPHEAD	BEGIN INSTALLATION OF (CV) TOP HEAD	26-Mar-14		◆ BEGIN INSTALLATION OF (CV) TOP HEAD	
L2CTMFORMSM	START- CONTAINMENT BUILDING FORMWORK	31-Jul-14		◆ START- CONTAINMENT BUILDING FORMWORK	
L2CTMFORMFM	FINISH- CONTAINMENT BUILDING FORMWORK	03-Oct-11	01-Jul-13	◆ FINISH- CONTAINMENT BUILDING FORMWORK	
L2CTMFORM	CONTAINMENT BUILDING FORMWORK	03-Oct-11	01-Jul-13	▨ CONTAINMENT BUILDING FORMWORK	
L2CTMCONCSM	START- CONTAINMENT BUILDING CONCRETE	03-Oct-11		◆ START- CONTAINMENT BUILDING CONCRETE	
TASK filter: LEVEL 2 3 FILTER 2.					
Remaining Level of Effort		Remaining ...		(c) Primavera Systems, Inc.	
Actual Work		Critical Re...			

<div> <div>Remaining Level of Effort</div> <div>Actual Work</div> </div>	<div> <div>Remaining ...</div> <div>Critical Re...</div> </div>	TASK filter: LEVEL 2 3 FILTER 2.	(c) Primavera Systems, Inc.
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Confidential Trade Secret Information—Subject to Restricted Procedures

Execution Version



## Execution Version

SOEG " VC Summer Unit 2" Construction Last Updated from		Level 2		23-Apr-08 16:07																											
Activity ID	Activity Name	Early Start	Early Finish	Quarter																											
L2CTMPANEM	FINISH- CONTAINMENT PANELS, SWITCHGEAR & TRANSFORMERS		03-Dec-13																												
L2CTMPANE	CONTAINMENT PANELS, SWITCHGEAR & TRANSFORMERS	03-Apr-12	03-Dec-13																												
L2CTMTTRAYSM	START- CONTAINMENT CABLE TRAY	04-Jul-12																													
L2CTMTTRAYFM	FINISH- CONTAINMENT CABLE TRAY	04-Jul-12	02-Apr-14																												
L2CTMTTRAY	CONTAINMENT CABLE TRAY	04-Jul-12	02-Apr-14																												
L2CTMCONDSM	START- CONTAINMENT CONDUIT	04-Jul-12																													
L2CTMCONDFM	FINISH- CONTAINMENT CONDUIT	04-Jul-12	02-Apr-14																												
L2CTMCOND	CONTAINMENT CONDUIT	01-Jan-13																													
L2CTMPULLSM	START- CONTAINMENT CABLE PULLS	01-Jan-13																													
L2CTMPULLFM	FINISH- CONTAINMENT CABLE PULLS	01-Jan-13	30-Sep-14																												
L2CTMPULL	CONTAINMENT CABLE PULLS	06-Jan-14	30-Sep-14																												
L2CTMTTERMSM	START- CONTAINMENT CABLE TERMS	06-Jan-14																													
L2CTMTTERMF	FINISH- CONTAINMENT CABLE TERMS	06-Jan-14	31-Dec-14																												
L2CTMTTERM	CONTAINMENT CABLE TERMS	06-Jan-14	31-Dec-14																												
L2CTMSYSMSM	START- CONTAINMENT SYSTEM MISCELLANEOUS DIRECT C	25-Jan-12																													
L2CTMSYSMF	FINISH- CONTAINMENT SYSTEM MISCELLANEOUS DIRECT C	25-Jan-12	31-Dec-14																												
L2CTMSYSM	CONTAINMENT SYSTEM MISCELLANEOUS DIRECT CRAFT	25-Jan-12	31-Dec-14																												
L2CTMRV1SM	START-BEGIN FITUP & INSTALLATION OF RV INTERNALS	05-Mar-14																													
L2CRANE1SM	START- SET POLAR CRANE	03-Apr-14																													
L2CRANE1FM	FINISH- SET POLAR CRANE		04-Jul-14																												
L2CTMRV1FM	FINISH- BEGIN FITUP & INSTALLATION OF RV INTERNA		02-Oct-14																												
<b>AUXILIARY BUILDING</b>																															
L2AUXREBASM	START- AUXILIARY BUILDING REBAR	01-Sep-10	02-Apr-15																												
L2AUXREBAFM	FINISH- AUXILIARY BUILDING REBAR	13-Apr-11																													
L2ADCA20SM	FIRST NUCLEAR MODULE ON-SITE	01-Sep-10																													
L2AUXACA20	SITE ASSEMBLY OF CA20	15-Oct-10	18-Nov-11																												
L2AUXREBA	AUXILIARY BUILDING REBAR	13-Apr-11	01-Sep-14																												
L2AXCA20SM	BEGIN INSTALLATION OF CA20MODULE	03-Jan-12																													
L2AUXFORMSM	START- AUXILIARY BUILDING FORMWORK	13-Apr-11																													
L2AUXFORMFM	FINISH- AUXILIARY BUILDING FORMWORK	13-Apr-11	01-Sep-14																												
L2AUXFORM	AUXILIARY BUILDING FORMWORK	13-Apr-11	01-Sep-14																												
L2AXOCSSM	BEGIN INSTALLATION OF MAIN CONTROL ROOM (OCS)	21-Mar-13																													
L2AXREFMACH	BEGIN INSTALLATION OF REFUELING MACHINE	17-Apr-13																													

Remaining ...  
 Actual Work  
 Critical Re...

TASK filter: LEVEL 2 3 FILTER 2.

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Execution Version